

U. S. Army Corps of Engineers
Kansas City District

Federal Creosote Superfund Site
OU1 Phase 2
Final Remedial Action Report

June 2008



REMEDIAL ACTION REPORT

**LAGOON A REMEDIAL ACTION
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY**

CONTRACT NO.: DACW41-01-D-0001

PREPARED FOR

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PREPARED BY

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June 2008

**REMEDIAL ACTION REPORT
RECORD OF PREPARATION, REVIEW, AND APPROVAL
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
LAGOON A REMEDIAL ACTION**

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This report has been prepared in accordance with EPA OSWER 9320.2-09A and will be used as a basis for development of the site Project Closure Report.

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Section 1

Introduction

The Federal Creosote Superfund site, which includes a 137-property residential community known as the Claremont Development and a commercial area known as the Rustic Mall, is located in the Borough of Manville, Somerset County, New Jersey. The site is over 50 acres and is bordered to the north by the Norfolk Southern Railroad, to the southeast by the CSX Railroad, to the south by East Camplain Road, and to the west by South Main Street.

U.S. Army Corps of Engineers (USACE) Kansas City provided technical support to the U.S. Environmental Protection Agency (EPA) during the Operable Unit (OU)1 Phase 2 (Lagoon A) remediation at the Federal Creosote Superfund site. In support of these efforts, the USACE contracted with Severson Environmental Services, Inc. (SES) to perform the remedial construction in accordance with the project design documents. The work was performed under Pre-Placed Remedial Action Contract (PRAC) DACW41-01-D-0001.

The objective of the project was to remediate the Lagoon A area that may pose risks to human health and may continue to be a source of groundwater contamination.

USACE retained the services of CDM Federal Programs Corporation (CDM) to perform the remedial design and to prepare the remedial action report. The design was performance-based. Minimum requirements were presented to allow the contractor to develop the methods and procedures for accomplishing the design objectives. All work was performed in accordance with site-specific project plans prepared by SES, based on the remedial design documents. Each plan was submitted to USACE for approval prior to commencement of field activities.

A pre-construction conference meeting was conducted at the site office on May 8, 2002. Remedial action construction started in May 2002 and was completed in February 2008. On March 19, 2008, upon correction of all construction deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES attended a final inspection.

1.1 Remedial Action Report Objectives

The objectives of this report are summarized below:

- Provide a summary of pertinent background information including site description, history, and discussion of OUs
- Present a detailed chronology of events for the remedial action effort
- Present an extended summary of the project performance and construction quality control standards instituted by SES to ensure the successful completion of the remedial action
- Present a summary of pre-remedial and remedial action activities completed over the course of the project

- Present a summary of unusual events encountered during the completion of site activities
- Present a summary of lessons learned
- Present a summary of the project final inspection
- Present a summary of SES's operation and maintenance obligations relative to site restoration
- Present a summary of the project costs

1.2 Site Description

The Federal Creosote site is located on a topographic high within the Raritan River watershed system. The Raritan River passes approximately 2,000 feet north and east of the site, and the Millstone River, a tributary of the Raritan, is located approximately 1,200 feet to the southeast. The confluence of the two rivers lies approximately one mile east of the site. ✓

1.3 Site History

The Federal Creosote site was the site of the former American/Federal Creosote Wood Treatment facility, which operated from approximately the 1910s to 1957. The plant operated as a wood (e.g., railroad ties) treatment facility that used creosote as a preservative. Historic aerial photographs indicate that the main wood treatment facility was located in the southwest corner of the site, where the Rustic Mall is currently located. The wood treatment facility included several large buildings, a pressure cylinder, and five vertical storage tanks. ✓

Two lagoons and associated canals that serviced the facility were located in the north central and southeast sections of the site. The lagoons and canals are believed to have contained liquid waste generated from the creosote wood preservation operation. The lagoon in the north central section of the site and its associated canal are referred to as Lagoon A and Canal A, respectively. The lagoon and canal in the south portion of the site are referred to as Lagoon B and Canal B, respectively. Additionally, several impoundments, standing liquid areas, and stained areas were identified northeast of the main treatment facility. Figure 1-1 shows the lagoons and canals superimposed on a map of the present development.

According to historic aerial photographs, the central portion of the site was mainly an open lumber storage yard, containing stacks of wood material such as untreated lumber, poles, beams, and railroad ties. Darker-toned, apparently treated wood was located in an area referred to as the drip area, which occupied the northern portion of the open lumber storage yard, and along the northern rail spurs and loading platform.

Beginning in 1962, the 137 residential unit Claremont Development was constructed in the areas of this site that were the lagoons, canals, drip areas and lumber storage areas. The lagoons and the canals were reportedly filled in, without removing the waste from the lagoons, during the residential community development. The southwestern portion of the site was developed into the Rustic Mall.

In April 1996, the New Jersey Department of Environmental Protection (NJDEP)

responded to an incident involving the discharge of an unknown liquid from a sump located at one of the Claremont Development residences on Valerie Drive. A thick, tarry substance was observed flowing from the sump to the street. In January 1997, the Borough of Manville responded to a complaint that a sinkhole had developed around a sewer pipe in the Claremont Development along East Camplain Road. Excavation of the soil around the pipe identified a black tar-like material in the soil. Subsequent investigations of these areas revealed elevated levels of contaminants consistent with creosote.

In October 1997, EPA's Environmental Response Team (ERT) initiated a site investigation limited to properties believed to contain creosote contamination based on analysis of historic aerial photographs as well as input from residents. This investigation included the collection of surface and subsurface soil samples at select locations within the residential development. The result of this investigation indicated that the contamination was extensive, uncontrolled, and had impacted sediment, soil and groundwater in the area.

From February through April 1998, EPA collected over 1,350 surface soil samples on 133 properties in and adjacent to the Claremont Development in order to determine if an immediate health risk existed. EPA identified some properties with surface soil in yards containing elevated levels of creosote posing a long-term health risk. As a result, EPA applied topsoil, mulch, seed and sod to 11 of the properties that contained elevated levels of creosote in surface soil, to limit the potential for exposure.

In November 1998, EPA initiated a remedial investigation and feasibility study (RI/FS) to more fully characterize the nature and extent of contamination at the site. Subsurface soil sampling started in December 1998 and was completed in March 1999.

The site was proposed for the National Priorities List (NPL) on July 27, 1998, and was formally placed on the NPL on January 19, 1999.

The data from the 1997/1998 investigation conducted by EPA indicated that the canal and lagoon areas are the major sources of soil and groundwater contamination in the Claremont Development. EPA then prepared an Engineering Evaluation/Cost Analysis (EE/CA) and a focused EE/CA, to evaluate remediation options for the lagoon and canal source materials. The focused EE/CA concentrated on the preferred remedy of demolition of structures and excavation of the lagoon and canal material, with off-site treatment and disposal.

On September 28, 1999, EPA signed a Record of Decision (ROD) for the remediation of the lagoons and canals. The ROD designated the remediation of the lagoons and canals as OU1. EPA addressed the remaining site areas under separate Operable Units, according to the following:

OU2 - Residual Levels of Creosote Contamination in the Claremont Development

OU3 - Rustic Mall Contaminated Soil, Groundwater, Surface Water, and Sediment

1.4 USACE and EPA Project Management

USACE Kansas City District was responsible for the design and construction. USACE New York District was responsible for construction oversight. USACE NY provided full-time, on-site technical representative throughout the duration of the project. USACE representatives were responsible for assuring the project was executed in accordance with design documents and site-specific plans. USACE on-site representatives maintained a direct line of communication with SES's project management team and EPA Region II Remedial Project Manager (RPM). Weekly project meetings were held at the site throughout the duration of the field activities. Health and safety, work progress, field observations, problems and conflicts, schedule, submittals, quality control, changes, cost tracking, and community relations were discussed during these meetings. ✓

Key project personnel included:

Rich Puvogel	EPA Region II - Remedial Project Manager
Todd Daniels	USACE - Kansas City District Project Manager
Gene Urbanik	USACE - New York District - New Jersey Area Engineer
Neal Kolb	USACE - New York District - Resident Engineer

Section 2

Operable Unit Background

During the design review meeting on January 5, 2000, the design process for OU1 was divided into three phases, according to the following:

- Phase 1 - Lagoon B
- Phase 2 - Lagoon A, Canal A
- Phase 3 - Canal B

The objective of this phased approach was to align the design and construction schedule with the schedule for the real estate transactions (that included permanent and temporary relocation of residents), and funding of the project, which impacted the remedial construction, while maintaining EPA's goal of beginning construction in the summer of 2000.

This report covers the Lagoon A, Canal A remedial action, which is Phase 2 of OU1 and includes the following properties:

- 66 Valerie Drive
- 72 Valerie Drive
- 78 Valerie Drive
- 84 Valerie Drive
- 90 Valerie Drive
- 98 Valerie Drive
- 104 Valerie Drive
- 110 Valerie Drive
- 116 Valerie Drive
- Valerie Drive Traffic Island
- Norfolk-Southern Railroad Right-of-Way
- Rustic Mall Parking Lot (Support Zone)

2.1 Geology

2.1.1 Regional Geology

The site is underlain by approximately 25 to 35 feet of unconsolidated sediments of glaciofluvial origin, which in turn are underlain by Late Triassic siltstone and shale.

Stanford (1992) has mapped unconsolidated sediments in the vicinity of the site above altitude 50 feet relative to mean sea level (msl) as Upper Raritan Terrace Deposits. These Middle Pleistocene sands and gravels, which form a terrace about 20 to 30 feet above the present Raritan River alluvial plain, were associated with 60 to 100 feet of weathering and down-cutting of bedrock in both main and tributary valleys during the Illinoian glacial event. Regionally, these deposits consist of sand and pebble gravel, with minor silt, clay, and cobbles. Total thickness in this unit of up to 50 feet has been reported (Stanford 1992).

The subsequent Millstone Terrace Deposits (altitude 40 to 50 feet above msl) surround the Upper Raritan Terrace. Stanford correlates the Millstone Terrace with the Middle to Late Pleistocene Sangamon glacial event. Deposits with lithology similar to the Raritan Terrace have been observed up to 30 feet thick, forming a terrace about 10 to 15 feet above the present floodplain of the Millstone River. Recent alluvial deposits, consisting of up to 20 feet of sand, silt, and clay with minor organic material, surround deposits of the Millstone Terrace.

Bedrock beneath the site is the Passaic Formation, one of the sedimentary formations of the Newark Basin of New Jersey, which contains a thick sequence of Late Triassic and Early Jurassic non-marine sedimentary and igneous rocks. The predominant lithology is reddish-brown siltstone, mudstone, shale, and occasional sandstone of fluvial origin although grey to black lacustrine sequences of mappable scale have been observed in the Passaic Formation throughout the central Newark Basin. Faulting is relatively common, particularly in the western portions of the Passaic Formation outcrop. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike.

2.1.2 Site Geology

The deposits underlying the site were described as silt, which was then underlain by a sandy gravel that extended to bedrock (Weston 1998).

The lithologies of the deposits have been characterized in detail during the Focused Feasibility Study (FFS). The lithologic descriptions suggested the following sequence (from ground surface to bedrock) of deposits to be typical at the site:

- Fill
- Sand and Gravel
- Silt and Clay
- Sand and Gravel (with some silt and clay layers and seams)
- Shales (bedrock)

The fill varies in composition across the site and predominantly contains a poorly sorted mixture of gravel, sand, silt, and clay that varies in color from yellowish brown to brown to reddish brown. The unit also contains lesser amounts of coal/ashes, asphalt, concrete, and brick fragments. The fill unit fluctuates in thickness across the site from a minimum of approximately two feet to a maximum of approximately five feet, but typically the thickness does not exceed four feet. Topsoil, which is part of this unit, is commonly found to be six to eight inches thick. The fill unit appears to be continuous underneath the Claremont Development.

Underlying the fill unit is a sand and gravel deposit. The deposit may generally be described as a fine to coarse sand with little to some fine to medium gravel and trace amounts of silt. The color is typically brown or reddish brown. The typical thickness reported for the unit range from three to six feet, and rarely does the thickness exceed

seven feet. This sand and gravel unit appears to be continuous within the boundaries of the Claremont Development. Immediately south and southeast of the development in the Lost Valley residential area, this unit is not present, due to a decrease in topographic elevation.

A deposit of silt and clay underlies the sand and gravel unit. The unit is best described as a dark yellowish brown silt layer that is two feet thick with an underlying reddish-brown clay layer that is one foot thick. In many instances the silt layer is mottled or gleyed (additionally, the lower reaches of the overlying sand and gravel deposit are also sometimes gray). Within the boundaries of the Claremont Development, the thickness of the unit fluctuates from a minimum of four inches to a maximum of nine and one half feet. Additionally, both grain sizes (silt overlying clay) were not encountered at every boring location, however the deposit of silt and clay is believed to be relatively continuous beneath the development.

A second sand and gravel unit lies beneath the fine-grained unit. The unit is generally described as a reddish-brown fine to coarse sand with a trace to some fine to medium gravel, and trace amounts of silt; occasional seams and layers of well-sorted sand are encountered. Within the unit a discontinuous layer of silt and clay can be traced. Referenced to depth, the fine-grained layer occurs near the mid-section of the sand and gravel unit. Additionally, at the base of the unit a discontinuous layer (consisting of grain sizes from clay to cobbles) that is believed to be till has been identified. The thickness of the sand and gravel deposit (including the fine-grained layer and the basal till) fluctuates across the site from approximately 15 feet to 25 feet, with the typical thickness in the range of 19 to 23 feet. The basal till (which has been identified based on grain size, grain angularity and penetration rate increase) is approximately one foot thick and is likely not continuous.

The bedrock color is typically reddish brown and shows lithologies typical of the Passaic Formation, with alternating red-brown siltstone, sandstone and shale. The rock was described as highly to moderately weathered, friable and soft. The bedrock surface varies in altitude beneath the development from approximately 12 to 17 feet above msl, with most of the altitudes near 15 feet below ground surface (bgs). No site-wide slope trends of the bedrock surface are apparent.

2.2 Hydrogeology

2.2.1 Regional Hydrogeology

The Passaic Formation has been extensively developed for groundwater supplies. Wells capable of yielding tens to hundreds of gallons per minute have been completed throughout much of the formation, generally at depths of 200 to 500 feet (Vecchioli, 1965). The rocks have little primary permeability. Virtually all groundwater movement occurs through the intersecting fracture sets. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike. It has long been recognized that the Passaic (Brunswick) aquifer is strongly anisotropic, with the axis of maximum

hydraulic conductivity generally parallel to bedding strike. Although the origin of the anisotropy is clearly related to the fractured nature of the aquifer, there has not been universal agreement over the immediate cause.

No uses of groundwater from the unconsolidated unit in the immediate vicinity of the site are known and, with the limited available drawdown, it is unlikely that a usable quantity of water could be obtained from the unit. Fluvial gravel deposits along the Raritan River have been used for water production, including potable water use. The Borough of Manville owns gravel wells near the Raritan River, which were formerly used for potable water.

2.2.2 Site Hydrogeology

The site hydrogeology is described in detail in the Groundwater, Surface Water and Sediment Draft Remedial Investigation Report, September 2000. An unconfined (water table) aquifer with a saturated thickness of 10 to 14 feet was observed in the unconsolidated sediments at depths from about 14 to 21 feet below grade. Locally, isolated perched water zones have been identified at depths of 6 to 10 feet below grade. Beneath the site, the groundwater surface occurs in the deep sand and gravel unit. It appears likely that groundwater in the uppermost zone of the bedrock is in direct hydraulic connection with the saturated zone in the unconsolidated sediments.

2.3 Summary of Field Investigation Data

CDM conducted a pre-design field investigation for OU1 under Base Contract DACW41-99-D-9009 with the USACE, Technical Design for Remedial Selection and Pre-design Planning. The sampling program was developed to characterize the nature and extent of creosote product material associated with the historic lagoons, canals and exit trench areas. To accomplish this objective, CDM defined the difference between stained soil and product. For the purposes of this investigation, product was considered to be above 30% creosote based on the definitions below.

- 1-3% There is a creosote odor and/or low HNu hits. There is some creosote sheen on the grains, but the concentration is not high enough to discolor the grains. (SHEEN)
- 10% There is enough creosote on the soil grains to almost completely cover the grains and mask their original color. There is no creosote in the pore spaces. (STAIN)
- 15% There is enough creosote on the soil grains to completely cover the soil grains and mask their original color. There is no creosote in the pore spaces. (STAIN)
- 20% The creosote thickly covers the soil grains, completely masking the original color and begins to fill the pore spaces. (STAIN)
- 25% The creosote thickly covers the soil grains, completely masking their original color and product is evident in the pore spaces. If you hold the sample, the creosote will not flow out of the pore spaces. (STAIN)

- 30% The creosote thickly cover the soil grains, completely masking their original color and the pore spaces are half full of creosote. If you hold the sample, the creosote will not flow out of the pore spaces. (PRODUCT)
- 40% The creosote thickly covers the soil grains, completely masking their original color and the pore spaces are almost full of creosote. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)
- 50% The creosote has completely covered the grains and filled the pore spaces, but the core is still matrix supported. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)
- 70% There is more creosote than matrix. The creosote is free flowing, but there is still 30% debris in the creosote. (PRODUCT)
- 85% There is significantly more creosote then matrix. The creosote is free flowing. There is almost no matrix in these areas. (PRODUCT)

2.3.1 Shallow and Deep Soil Boring Program

The objective of the soil boring program was to characterize the horizontal and vertical extent of creosote product deposits associated with Lagoon A. To achieve this objective, CDM, working closely with USACE and EPA, identified a series of shallow and deep borings locations. The boring locations were chosen to supplement previously collected data. Soil boring logs and analytical results of collected soil samples for the Lagoon A properties are included in Appendix A of the Specifications (CDM 2002b).

The soil borings were installed using a trailer-mounted hollow stem auger rig, a truck-mounted hollow stem auger rig, a tripod, direct-push (geoprobe) sampling, or a bucket auger. The choice of method was governed by the location of the boring, the depth of the boring, and rig access.

In addition to defining locations of visibly contaminated material during the soil boring program, samples were collected for analytical testing, and tested for PAHs using EPA Method 8270.

2.3.1.1 Shallow Soil Borings

A total of four shallow soil borings were advanced into the subsurface at the Lagoon A properties during the pre-design investigation. Split-spoon samples were collected continuously at two-foot intervals, and the lithology was recorded. The depth of the borings and the sampling intervals were determined for each location based on data from the pre-design investigation and previous investigations. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface. The locations were restored to pre-existing conditions. The locations of the pre-design borings were also surveyed and are shown on the excavation plans included in the design drawings.

2.3.1.2 Deep Soil Borings

A total of 39 deep soil borings were drilled to bedrock at the Lagoon A properties and Valerie Drive traffic island during the OU1 Phase 2 pre-design investigation. The sampling intervals were determined for each location based on data from previous investigations. Split-spoon samples were collected continuously at two-foot intervals, and the lithology was recorded. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface, and the locations were restored to pre-existing conditions. The locations of the pre-design borings were also surveyed and are shown on the excavation plans included in the design drawings.

To provide the geotechnical information required for the design of temporary earth retaining structures, Shelby tubes and composite samples were collected from boring locations D1018 at 110 Valerie Drive, D1006 at 198 E. Camplain Drive, and D 1007 at 42 Valerie Drive. The composite samples were collected during boring installation in a 5-gallon plastic bucket. An attempt was made to segregate the contaminated material from the samples. The Shelby tubes were collected from the silt/clay layer that generally exists throughout the Lagoon A area, between depths of approximately 8 to 14 feet bgs. The tubes were collected from a separate hole located within 5 feet of the boring location, immediately after the borings were completed. All the Shelby tubes had complete recovery. ✓

2.3.2 Topographic Survey

The locations of the pre-design borings were surveyed and added to the existing topographic base map for the site, which was prepared by Zambrana Engineering Inc., a licensed New Jersey land surveyor. The boring locations are shown on the contract drawing. ✓

2.4 Design Criteria

The ROD for OU1 specified excavation of source material from the canal and lagoon source areas and shipment of creosote waste to a facility for treatment prior to final disposal. The creosote wastes were identified based on visual observations of creosote product as discussed in Section 2.3. In addition to the creosote product, contaminated soil within the Lagoon A properties were addressed in accordance with the OU2 ROD, which specified the excavation and transportation for off-site disposal of soil containing PAHs in excess of the analytical cleanup goals (ACGs). Table 2-1 contains the site-specific ACGs, which were used as the basis for the design and remediation. ✓

2.5 Remedial Design Documents

Based on the investigation data and established design criteria, CDM developed the design documents, including DAR, drawings, specifications, and cost estimate. The design documents were performance-based, that is, minimum excavation horizontal limits and depths were presented on the design drawings, with the exception of the following:

- Detailed design for the excavation support system

- Grid system for post-excavation sampling
- Utility relocation

2.5.1 Site Specific Plans

For the most part, work plans developed for the Lagoon B (OU1 Phase 1) remediation were utilized in addressing all major project elements. Several work plans were amended to reflect Lagoon A property-specific conditions and to ensure compliance with the project design documents. USACE reviewed and approved all plan addenda prior to implementation. The following plans were amended and/or submitted for approval:

- Excavation and Handling Plan (Addendum) - April 10, 2002
- Traffic Control and Transportation Plan (Addendum) - April 25, 2002
- Soil Erosion and Sediment Control Plan (Addendum) - May 6, 2002
- Perimeter Air Monitoring Plan (Addendum) - May 20, 2002

Section 3

Remedial Construction Activities

Lagoon A remedial construction activities started in May 2002 and were completed in February 2008. A summary of the major construction activities completed at the Federal Creosote site during the Lagoon A remediation is presented below.

3.1 Site Preparation

Site preparation activities including site survey, temporary facilities mobilization, resident relocation, erosion and sediment control, site security, etc. were performed prior to commencement of remedial construction. Site preparation activities are described in the following paragraphs.

3.1.1 Site Survey

The Lagoon A properties were surveyed during the pre-design investigation as described in Section 2.3.2. Pre-remedial conditions of the properties are shown on the contract drawings. AutoCAD files of the property surveys were provided to SES prior to construction.

3.1.2 Temporary Facilities

Temporary facilities were located within the Contractor support zone, in the north portion of the Rustic Mall, as shown on the contract drawings. The support facilities included six 12 feet by 15 feet trailers. One trailer was used by the EPA, another was designated to USACE, and a third trailer was used by site security. The remaining three trailers were used by SES. Temporary water, sanitary, electric and telephone services were established. The support zone was completely secured with an 8 feet high chain link fence.

The decontamination pad constructed within the Contamination Reduction Zone (CRZ) was used for equipment decontamination. The pad was integrated with the truck tarping station and was constructed using 6-mil polyethylene liner, berm containment, and water collection sump. The sump was equipped with an electric pump. Collected wastewater was treated at the on-site wastewater treatment plant prior to being discharged to surface water via the storm sewer system. Individual CRZs were established at each remote excavation location for personnel decontamination, which consisted of removal of personal protective equipment (PPE).

3.1.3 Soil Erosion and Sediment Control

SES developed a Soil Erosion and Sediment Control Plan for the Lagoon B remedial activities. To address site-specific changes for the OU1 Phase 2 remediation, SES submitted an addendum of the original plan to Somerset-Union County Soil Conservation District (SCSCD) for recertification. A copy of the Addendum including the SCSCD approval letter is presented in Appendix A. To control offsite siltation/erosion that may result during precipitation events, the perimeter of

excavation areas and the stockpiles were encompassed with silt fence. Storm water inlets were covered with filter fabric to prevent siltation of the system. Finally, the stabilized construction entrance was maintained during the course of the Lagoon A construction.

3.1.4 Site Security

Site security was provided by Internal Intelligence, a security firm located in New Jersey, under subcontracting agreement with SES. Security guards were stationed in an office trailer located within the support zone in Rustic Mall. Security guard were on site 16 hours on weekdays and 24 hours on weekends and holidays. During the course of the construction, SES personnel provided site security during regular working hours. All visitors were required to sign-in upon entering the support zone.

3.2 Property Access

Access to the properties to be remediated was coordinated through EPA and USACE. EPA has an access agreement with the Norfolk Southern Railroad. ^{Prior to} During the remedial investigation, EPA obtained an access agreement from Borough of Manville for remediation of Borough roads and right-of-ways in the Claremont Development.

3.3 Resident Temporary Relocation

Depending on the extent of the remediation at the properties, it was necessary to temporarily relocate some residents while remediation was on-going. EPA's criteria for resident temporary relocation were as follows:

- Safety hazard for the homeowners
- Prolonged period of inaccessibility to the house
- Shutoff of utilities for a prolonged period

Based on the established criteria, the residents of the 116 Valerie Drive were temporarily relocated.

3.4 Site Demolition

The demolition of the Lagoon A properties was separated from the remediation contract. The following houses on the OU1 Phase 2 properties were demolished prior to remediation:

- 66 Valerie Drive
- 72 Valerie Drive
- 78 Valerie Drive
- 84 Valerie Drive
- 90 Valerie Drive
- 98 Valerie Drive
- 104 Valerie Drive
- 110 Valerie Drive

Under contract with USACE (Contract No. DACW41-00-D-0021), CAPE, Inc (CAPE) performed the demolition work, which consisted of the clearing of all above ground

features such as houses, garages, sheds, trees, shrubs, etc. Demolition activities started on December 13, 2001 and were substantially complete on January 18, 2002. Final walk through inspection was conducted on January 18, 2002. CAPE prepared the as-built (red-line) drawings presented in Appendix B by hand sketching features altered during the demolition on drawings provided by CDM. ✓

Photo 3-1 – Site Clearing during Demolition – Tree, Shrub, and Fence Removal

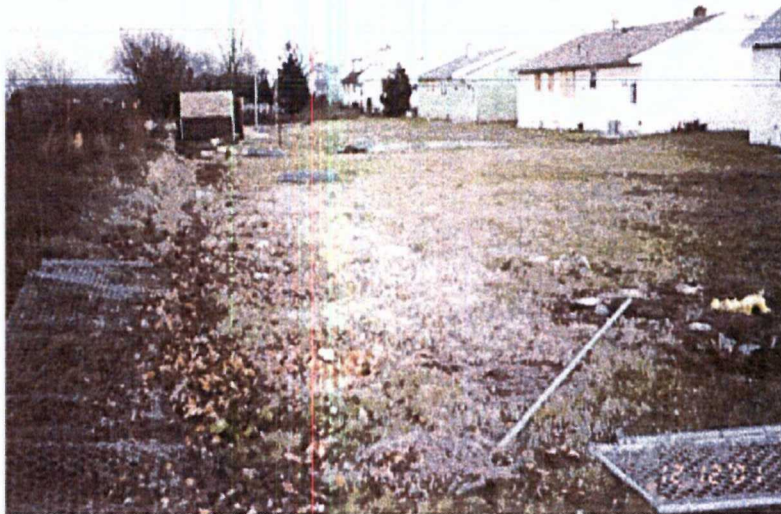


Photo 3-2 – Building Demolition – 72 Valerie Drive



Because of the gap in time between the demolition and the remedial action, the basements of the demolished houses were backfilled with 1-½ inch (maximum size) quarry processed material (QP) and secured with a geomembrane cover after the demolition to prevent an open-hole safety hazard. The QP stone was reused during remediation for the construction of access roads.

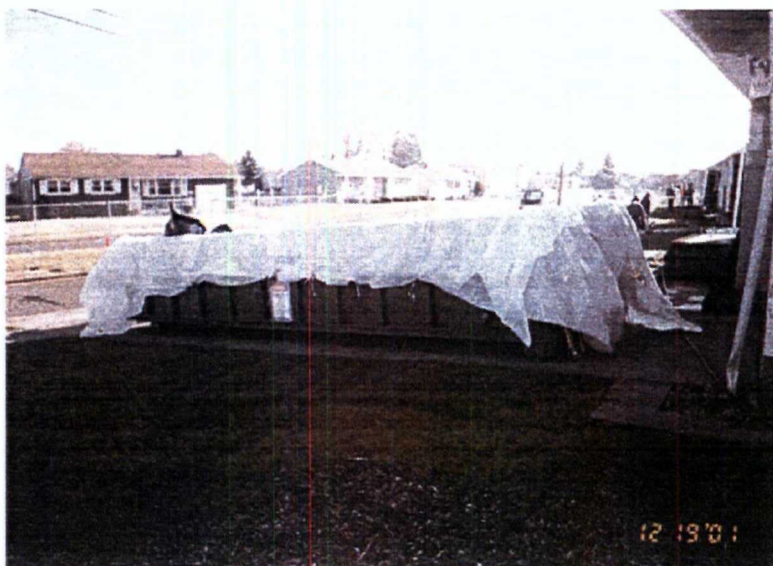
Photo 3-3 – Basement Backfilled – 98 Valerie Drive



3.4.1 Asbestos Abatement and Disposal

As recommended in the Environmental Management and Design Services (EMDS) asbestos survey report, additional ACM confirmatory sampling was performed by CAPE prior to the commencement of the asbestos abatement. The collected samples were analyzed by Phase Contrast Microscopy (PCM) using National Institute for Occupational Safety and Health (NIOSH) Method 7400, Revision 2. Laboratory analysis was performed by International Asbestos Testing Laboratory (IATL) located in Mt Laurel, New Jersey. The results of the collected confirmatory samples are summarized in Table 3-1. Air Clean performed all air monitoring activities during the ACM abatement work.

Photo 3-4 – Asbestos Abatement – ACM Waste Container



Subsequent to the confirmatory sampling and prior to the demolition of the houses, CAPE removed and disposed of all ACM. Removal activities were performed in accordance with all applicable Federal, State, and local regulations and the project specifications. A total of 60 CY of ACM including floor tiles, sheet vinyl, siding, etc. was removed from the site and disposed of at Waste Management Tullytown Resource Recovery Facility (TRRF), located at 200 Bordentown Road, Tullytown, Pennsylvania. Copies of the waste manifests are included in Appendix C.

3.4.2 Asbestos Abatement Air Monitoring

Air samples were collected prior, during and subsequent to the abatement activities. Daily personal air monitoring samples were also collected during abatement activities. Collected air samples were analyzed by PCM following NIOSH Method 7400, Revision 2 by IATL. Results of the laboratory analysis are included in Appendix D. Air Clean performed all air monitoring activities during the ACM abatement work. ✓

Daily project air monitoring samples were collected inside and outside of each abatement area. A total of 14 samples were collected and analyzed. The results of the laboratory analysis showed that the maximum concentration of the samples collected during the abatement activities was 0.0092 fiber per cubic centimeter (f/cc) which is below Occupational Safety and Health Administration (OSHA) acceptable concentration of 0.01 f/cc. ✓

Subsequent to the abatement activities, each work area was visually inspected prior to the collection of the final clearance air samples. Aggressive clearance sampling techniques were utilized when collecting the final air samples. Final clearance samples were also analyzed by PCM. All collected final clearance samples showed results of less than 0.01 f/cc. ✓

Daily personal air monitoring samples were also collected in accordance with OSHA. ✓

3.5 Site Clearing

Trees, bushes, and ornamental plants, fences located within the excavation areas were removed prior to the beginning of the excavation activities. Stumps left in place during demolition as part of clearing within the excavation limits for the 66 through 110 Valerie Drive properties were also removed. Waste generated during site clearing was disposed of at a municipal waste disposal facility as specified in the project documents. ✓

3.6 Excavation Dewatering

A dewatering system was necessary during the two deep portions of the Lagoon A excavation, which generally correspond to the Valerie Drive traffic island and the back yards of 84-90 Valerie Drive. The construction dewatering system was required to depress the water table below the excavation base (32 and 34 feet below grade) in order to maintain sufficiently dry, firm, and stable conditions for completing excavation, backfilling, and compaction work. The dewatering system was also used to remove rain water that accumulated within the excavation area after precipitation events.

The dewatering system was a combination deep well and sumping system. The deep well system controlled the water table to an elevation reasonably close to the interface to permit controlled sumping, and the sump pumping allowed for handling of runoff from other sources, including perched and trapped water above the less permeable and impermeable soil/bedrock. SES's subcontractor, Griffin Dewatering, designed the system, which consisted of 22 perimeter wells, 2 interior common perimeter wells, and 6 sump wells. The common wells were added interior to the perimeter wells, between the two deep excavation areas. Three sump wells were located across each deep excavation area. Well pumps for the perimeter wells were designed at 20 gallons per minute (gpm), and pumps for sump wells were designed at 100 gpm. All water generated from construction dewatering operations was treated at the on-site wastewater treatment plant and discharged to the storm sewer system. The dewatering system design was submitted to NJDEP for permitting. A copy of the permit is included in Appendix E. The pumping system and components were removed and decontaminated at the completion of work by SES.

Photo 3-6 – Site Dewatering – Dewatering Treatment System showing sediment basin and equalization tank



3.7 Odor Control

Ground treatment methods that were determined to be effective during the Lagoon B remediation were utilized to control odor. This method consisted of vapor dispersion and applying odor suppressant foam product or placing plastic sheeting directly over excavation areas and stockpiles.

3.8 Excavation Support System

Depending on the depth of the excavation, sheeting, soldier pile and lagging, or sloping was utilized to provide excavation support to structures such as houses and garages, and also along Valerie Drive. Under subcontract agreement with CDM, Engineering Technologies (ET) designed all excavation support systems. All sheeting, soldier pile

and lagging were installed by Linde-Griffith Construction Co., of Newark, NJ. An ICE 4500 vibratory hammer rigged to a Manitowoc 3000W 65-ton crane and a Bower BG18 drill rig was utilized to install the sheeting and soldier piles respectively. The tiebacks were installed by using a Clem drill rig. Some sections of the sheeting (along 66 and 72 Valerie Drive) were removed after backfilling. Other sections of sheeting, with approval of the Borough of Manville, were left in place. The locations of the sheet piles are shown on the as-built drawings included in Appendix F.

A 1:1 slope system was established for excavations deeper than four feet. When excavation was directly adjacent to structures' foundations, a 1-foot horizontal bench was established at the top of the slope. The bench was established to prevent the disturbance of the footing's stress influence zone.

Photo 3-3 – Excavation Support System (Sheeting)



Photo 3-4 – Excavation Support System (Soldier Piles and Lagging)



3.9 Excavation

The primary objective of the project was the removal and disposal of source material and contaminated soil within the Lagoon A area that may pose risks to human health and may continue to be a source of groundwater contamination. Excavation activities were initiated in August 2002 and were completed on January 2004.

SES excavated to the limits shown on the contract drawings. Upon completion of excavations, SES inspected both the sidewall and the bottom of the excavated areas for visible sign of contamination. If contamination was suspected, the Contracting Officer was notified and SES proceeded as directed. A total of 115,650.15 tons of soil was excavated and transported off site for disposal.

As discussed in Section 2.3, contaminated areas were generally well defined by implementing the sampling and analysis program developed during the pre-design investigation phase of the project.

SES utilized PC-400/Cat-345, Komatsu PC-300, PC-200, and PC-120 excavators to excavate the contaminated materials. Material excavated from shallow excavation areas was placed in dump trucks and transported to the established stockpile area located within Lagoon A. Crane mats were also utilized in the deep excavation areas to improve stability of temporary access roads.

Excavated contaminated material was segregated into three distinct stockpiles corresponding to the waste types as summarized in Table 3-2. To avoid cross contamination from one stockpile to another, SES designated an excavator for each stockpile. Stockpiled materials were loaded into lined trucks for transportation to treatment/disposal facilities.

Photo 3-5 – Excavation Operations



3.9 Backfilling

SES backfilled the excavated areas using clean imported backfill material from several sources including Haas Sand & Gravel in Vincentown and Excavating Material & Equipment, Inc. (EME) in New Egypt. Prior to delivery to the site, physical and chemical analyses were performed on every 5,000 CY lot of material to ensure that backfill materials met the project requirements and specifications. All backfill material placed at the site met NJDEP residential direct contact cleanup criteria.

Backfill material was placed directly in the excavation and spread in horizontal layers up to 8 inches thick utilizing bulldozers. Placed material was compacted by utilizing an SD-40D roller to a minimum of 95% of its maximum dry density by Standard Proctor (ASTM D-698). Hand compactors and/or vibratory plates were utilized to compact areas immediately adjacent to houses or other structures. Compaction and moisture content testing of the backfill material was performed by Craig Testing Laboratories, Inc located in Mays Landing, New Jersey.

The upper layer of backfill material consisted of 6 inches of topsoil except in areas below roadways, sidewalk, walkway, and driveway. SES received the topsoil from EME. The source of the material was located in New Egypt, New Jersey. Approximately 122,363.68 tons of common fill and 2,751.52 tons of topsoil were utilized to fill the OU1 Phase 2 excavation areas.

Photo 3-5 - Backfilling Operations



3.10 Waste Disposal

EPA determined that the lagoon and canal soil were contaminated with RCRA listed (FO34) wastes which directed the selection of appropriate land disposal protocols. Excavated material was disposed of at one of three types of disposal facilities; thermal treatment and disposal, Subtitle C landfill, or Subtitle D landfill. Disposal was determined by the presence of creosote product and the degree of PAH contamination.

Excavated material was segregated into stockpiles corresponding to the three different types of disposal. Excavated material was loaded into dump trucks and transported to stockpiles and subsequently transported off site for treatment and disposal. Treatment and disposal requirements for the hazardous wastes material encountered during the OU1 Phase 2 remediation are summarized in Tables 3-2, 3-3, and 3-4. Table 3-5 summarizes the quantities of material disposed of during the Lagoon A remediation.

Material to be disposed of at Subtitle C and D facilities were transported to their respective facilities by utilizing 70,000-lb triaxle dump trucks. Material requiring thermal treatment and disposal was loaded into 80,000-lb dump trailers for transportation to the thermal treatment facility. Trucks transporting excavated material to the facilities were required to be lined, tarped, and decontaminated (tire wash) prior to leaving the site.

Photo 3-6 – Truck Loading Operations



3.10.1 Wastewater

Groundwater and surface runoff encountered during the excavation activities and wastewater generated from equipment and personnel decontamination was treated at the on-site wastewater treatment plant prior to being discharged to the storm sewer system, and ultimately to the Millstone River. During the Lagoon A remediation, SES relocated the previously designed, approved, and permitted Waste Water Treatment Plant (WWTP) from Lagoon B to the Rustic Mall support zone to treat wastewater generated during the remaining remedial activities. The system consisted of an oil-water separator, followed by an influent equalization tank, followed by bag filters, granular activated carbon, and effluent storage tanks. The plant was operated and maintained in accordance with the Federal Creosote Superfund Site Wastewater Treatment Plant Operations and Maintenance Manual (SES 2001). Plant design rationale is also included in the manual. SES obtained a permit in EPA's name (Permit No. 01-0568) from NJDEP to construct and operate the plant. A copy of the permit is included in Appendix G.

Because the treated water was ultimately discharged to the Millstone River, compliance with the New Jersey Pollutant Discharge Elimination System (NJPDDES) Master General Petroleum Products Cleanup (GPPC) was required. Surface Water Master General Permit (No. NJ0102709) and Discharge Authorization Permit (No. NJG0139050) obtained during the Lagoon B remediation were renewed. Copies of the renewed permits are included in Appendix H. Table 3-6 below summarizes the wastewater treatment plant effluent permit discharge limits. Table 3-7 is a summary of the wastewater treatment plant sampling requirements. Approximately 74,222,541 gallons of wastewater was treated and discharged during the OU1 Phase 2 remedial activities.

3.11 Site Restoration

Property features impacted by construction activities were restored and/or replaced in kind by the contractor. The OU1 Phase 2 properties - 66 through 110 Valerie Drive - were restored as vacant lots ready for development. The properties were graded in a manner that is uniform, consistent with the existing topography, and re-vegetated with grass, according to the restoration plan in the design package. The property restoration at 116 Valerie Drive involved replacement in kind of items in the yard where construction took place. Sod was used to replace grass on this property. Roadways, curbs, gutter, asphalt pavement, and sidewalks impacted by the remedial activities were also restored and/or rebuilt as shown on the restoration plans included in the contract drawings. Grass areas were restored with sod. Excavated areas were graded to closely follow the pre-excitation grades. Landscape items such as trees and shrubs removed during remedial activities were replaced as shown on the contract drawings. A row of pine trees was planted in the Norfolk Southern Railroad right-of-way near the property line. Utility service laterals impacted by the excavation were also restored. Utility work was performed by the respective utility companies or their authorized representatives, except for water, sanitary, and storm sewer work, which was performed by SES.

Photo 3-8 - Site Restoration



3.12 As-Built Survey

Final as-built survey depict the post-remediation conditions and final topography of each remediated property. Excavation as-built survey was also performed and excavation cross sections were prepared. Copies of as-built drawings are included in Appendix F. Final survey was performed by Kennon Surveying Services, Inc. of Warren, New Jersey, a New Jersey licensed land surveyor. ✓

3.13 Soil Sampling and Analysis

Soil sampling and analysis was performed as described in the USACE-approved Sampling and Analysis Plan (SAP). Samples were analyzed for the primary site contaminants, PAHs, by SW-846 method 8270C.

3.13.1 Post Excavation Sampling

Upon completion of excavation up to the limits shown on the contract drawings, post excavation sampling was performed in accordance with the site specific SAP.

Post excavation samples were collected in locations shown in the contract drawings. The locations were established in compliance with NJDEP post excavation sampling criteria. For primary excavations, post excavation samples were collected at a rate of one sample for every 900 ft² of bottom area and one sidewall sample for every 30 linear feet of sidewall excavation. The collected post excavation samples were analyzed for PAHs. Post excavation samples were grouped into two categories as described below:

Confirmation samples

Confirmation samples were collected in areas where excavation depth was 14 feet or less. Confirmation sampling results were compared to the ACGs. No additional excavation was conducted based on the results.

Documentation Samples

Documentation samples were collected in areas where excavation depth was greater than 12 feet. These samples were collected to document the location of any remaining contamination. No additional excavation was conducted based on the results. 12 ✓

Property closure reports are included in Appendix I. These reports contain individual property drawings which show the locations of the post excavation samples.

3.13.2 Backfill Material Sampling

Excavated areas were backfilled with clean soil from off-site sources. Representative samples of backfill materials were collected and analyzed at a frequency of one sample for every 5,000 CY of imported material. Only material that met NJDEP residential direct contact soil cleanup criteria (NJAC 7:26D) and the project specifications was utilized. ✓

3.14 Ambient Air Monitoring

SES amended the approved Lagoon B Ambient Air Monitoring Plan (AAMP) describing

the methods and procedures utilized to determine the air contaminants that may be released during remediation activities. The contaminants of concern included; Volatile Organic Compounds (VOCs), PAHs, and respirable particulates. In addition, a meteorological system, monitoring wind speed and direction, ambient temperature, atmospheric pressure, solar radiation, and precipitation was installed within the support zone.

Ambient air monitoring was performed by using real time instrumentation and samples were collected for analysis in accordance with EPA T0-13, T0-14, and PM-10 methods for PAHs, VOCs, and respirable particulates, respectively. Tables 3-8 and 3-9 summarize the perimeter air monitoring/sampling requirements for the Lagoon A remediation. Table 3-10 summarizes air monitoring exceedances that occurred during the site operations.

The exceedances are listed as real-time air monitoring issues and air sampling issues. In September 2003, elevated dust levels were recorded due to dry conditions. Dust control measures were implemented to reduce the dust becoming airborne from vehicle traffic. On another occasion in September 2003, elevated dust levels were reported due to increased overnight humidity. Cautions were taken to anticipate atmospheric weather changes that could affect the instrumentation during sampling events. In March 2004, air sampling results were determined to be invalid due to an extraction procedure that did not allow the detection limits to be achieved. In April 2004, an incorrect interpretation of lab data in the field was due to not subtracting the background results. In each instance, corrective actions were taken, include using revised extraction procedure and correcting and resubmitting the lab report.

Section 4

Chronology of Events

Figure 4-1 summarizes the events that occurred during the Lagoon A Remedial Action.

Section 5

Performance Standards and Construction Quality Control

SES implemented a Quality Control (QC) program that incorporated the requirements of the project specifications and the approved site specific Contractor Quality Control Plan (CQCP). USACE provided Quality Assurance (QA) through the use of on site personnel to monitor project performance.

5.1 Project QA/QC Organization

Lagoon A remedial action was supported by both field and office personnel. SES on site personnel consisted of Project Manager, Site Contractor Quality Control Manager, Site Safety and Health Officer, Project Engineer, and Project Superintendent. Overall project organizational chart is presented in Figure 5-1.

5.2 Construction QA/QC Implementation

A three-phase quality check was conducted for each definable feature of the work. The checks include preparatory, initial, and follow-up inspections. The preparatory inspection was performed after all required plans, documents, and materials were approved and copies were at the work site. The initial inspection was conducted after the completion of a representative sample of the work. The follow-up inspection consisted of daily quality control activities to ensure compliance with contract requirements until the completion of a particular definable feature of work.

5.3 Sampling and Analysis

A QA/QC system was implemented to ensure the accuracy, completeness, and precision of sampling data. Collected field QA/QC samples included field duplicates, matrix spike, matrix spike duplicates, and QA split samples.

5.3.1 Field Duplicates

Field duplicates are defined as a homogenized sample collected from a unique location that was divided into two separate sets of containers and submitted to the laboratory as two unique samples for analysis. Field duplicates were collected at a frequency of one duplicate for every 10 samples.

5.3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples were collected to document the precision and consistency of the laboratory equipment. MS/MSD samples were collected at a rate of one sample for every 10 field samples.

5.3.3 USACE QA Sampling

USACE QA split samples were collected as follows. A sample was collected then divided into two distinct samples. The duplicate pairs were tracked so that the results

could be compared. One of the samples was submitted to the subcontracted project laboratory. The other sample was submitted to USACE Environmental Chemistry Branch laboratory located in Omaha. The results of the two samples were compared for analytical method accuracy. USACE QA split samples were collected and analyzed at a frequency of one for every 10 samples. ✓

5.3.4 Data Review/Validation

Field data from air monitoring were assessed by the on site QC manager. The QC manager reviewed field results for compliance with established QC criteria. Field measurements were assessed using daily instrument calibration, calibration check, and blank analysis.

Laboratory analytical data were subjected to review to assess data precision, completeness, and sensitivity.

5.3.5 Sample Numbering

Sample numbering scheme was developed to identify each sample designated for laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for retrieval of field and analytical data of each sample. A summary of the sample numbering scheme is presented in Section 4 of the Approved Sampling and Analysis Plan submitted by SES. L

5.4 In-Place Soil Moisture and Density Testing

Soil moisture and density testing of in-place backfill was performed as described in Section 3.9. Field testing was performed by subcontractor personnel using a Troxler Nuclear Moisture Density Gauge.

5.5 Health and Safety

As required by the Site Safety and Health Plan (SSHP), daily tailgate meetings were conducted. Special health and safety considerations were discussed as they pertained to the daily activities. Weekly meetings were also held to review issues related to any new activities. SES's Health and Safety Director, Paul J. Hitcho, CIH, also conducted periodic Health and Safety inspections during the course of the project. A copy of the April 24, 2002 inspection report is included in Appendix J. USACE also conducted periodic health and safety audits during construction activities. Copies of USACE health and safety audits are also included in Appendix J. ✓

General site workers were required to be trained for Hazardous Waste Operations and Emergency Response in accordance with 29 CFR 1919.120, and excavation and trenching safety trained. Individuals involved with shipping of hazardous materials were required to receive the appropriate Department of Transportation (DOT) training. Most of the work was conducted in Level D PPE with a contingency for Level C upgrade for personnel in direct contact with the excavated material based on air monitoring results. Ambient air monitoring, in the form of real-time VOC and dust monitoring and high-volume particulate sampling and VOC sampling was also conducted within the vicinity of the excavation areas throughout the period of construction as discussed in Section ✓

3.14.

No incidents or injuries were reported during the course of the remedial action activities.

5.5.1 Personnel Exposure Air Monitoring

Personnel exposure air monitoring was conducted during the Lagoon A remediation. The collected samples were analyzed for PAHs and BTEX in accordance with NIOSH methods 1501 and 5506, respectively. The samples were also analyzed for respirable dust as indicated in Section 3.14. All samples collected during the Lagoon A sampling events resulted in concentrations below OSHA threshold values.

5.5.2 Personnel Decontamination

Personnel decontamination was performed upon exiting the exclusion zone and at the end of each work day. A nontransparent enclosure was strategically located within the decontamination pad to allow field personnel exiting the exclusion zone to change into street clothes prior to entering the support zone.

5.5.3 Equipment Decontamination

All equipment exiting the exclusion zone was required to be decontaminated prior to entering the support zone or leaving the project site in accordance with the SSHP.

Section 6

Inspection and Certification

6.1 Inspections

In addition to the three-phase inspection described in Section 5.2, pre-final and final inspections were performed following the completion of the remedial construction. The purpose of these inspections was to ensure that all work was performed to the satisfaction of the EPA and USACE.

6.1.1 Pre-Final Inspection

Pre-final inspections were conducted upon the completion of the remedial activities at each work area. Representatives from all parties including EPA, USACE, and SES were present. During these pre-final inspections, punch lists documenting observed deficiencies were prepared. The contractor was required to correct all deficiencies prior to the final inspection. Appendix K contains the copies of individual property pre-final inspection reports documenting punch list items requiring corrective actions.

6.1.2 Final Inspection

Upon correction of all deficiencies and submittal of outstanding project documents, representatives of EPA, USACE and SES conducted a final inspection on March 19, 2008. At that time, no punch list items were identified.

On March 19, 2008, Rich Puvogel, EPA RPM and Drew Sites, NJDEP's representative inspected the site. Subsequent to the inspection, Mr. Puvogel issued a final inspection memorandum documenting the inspection. A copy of the memo is included in Appendix L.

Section 7

Operation and Maintenance

The Canal B remediation was a permanent remedy. Therefore, long-term O&M was not required, except for maintenance of the new vegetation, which consisted of sod areas and planted trees. Maintenance activities such as mowing, removal of weed species, and watering were conducted during the first year following vegetation establishment.

FOR
CLOSURE

7.1 Warranty

As required by the contract documents, SES was responsible for the vegetation for a 12-month period following establishment.

Section 8

Summary of Project Cost

Canal B construction contract was executed as a cost-reimbursable contract. The work was completed under PRAC Contract Number DACW41-01-D-0001, awarded through USACE Kansas City District.

8.1 Remedial Construction Cost

The original negotiated contract amount for the Lagoon A remedial action at the Federal Creosote site was \$37,080,147.00. Project variations during the remedial effort prompted two contract modifications that increased the contract budget amount by \$18,432,570.27 to \$55,512,717.27. The work was executed under a cost-reimbursable contract. ~~Total~~ payment to SES for the Lagoon A remedial action was \$54,397,085.27.

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Section 9

Observations and Lessons Learned

water ponded in the causing soil behind the wall to cave in.

Road subsidence - the Lagoon A excavation encompassed a former traffic island on Valerie Drive. The excavation support system in this area - the soldier pile and lagging system - cut off the existing drainage at this low spot in Valerie Drive. After a severe rain event it was noticed that the road adjacent to the soldier pile and lagging wall had caved in. After repairing the cave-in, the contractor installed an asphalt curb and hay bales to direct the surface run-off away from the excavation. This action prevented a repeat during subsequent heavy rain events.

Section 10

Contact Information

Table 10-1 summarizes the key project personnel contacts.

Section 11

References

CDM. 2000. Groundwater and Sediments Draft Remedial Investigation Report. September.

CDM. 2002a. Federal Creosote Superfund Site OU 1 Phase 2 Remedial Design Analysis. March.

CDM. 2002b. Federal Creosote Superfund Site OU 1 Phase 2 Remedial Design Specifications. March.

SES. 2001. Federal Creosote Superfund Site Wastewater Treatment Plant Operations & Maintenance Manual. April.

TABLES

Table 2-1
OU1 Phase 2 Analytical Cleanup Goals

Chemical Parameter	Action Level (ppm)
Benzo(a)pyrene	0.66
Benzo(a)anthracene	0.9
Chrysene	90
Benzo(b)fluoranthene	0.9
Benzo(k)fluoranthene	9
Indeno(1,2,3-cd)pyrene	0.9
Dibenzo(a,h)anthracene	0.66

Table 3-1
ACM Confirmatory Sampling Summary

Sample No.	Location	Type of Material	Asbestos Content (%)
010102-0101	90 Valerie Drive - Kitchen	Backing on sheet flooring	No Asbestos Detected
010102-0102	90 Valerie Drive - Kitchen	Backing on sheet flooring	No Asbestos Detected
010102-0103	90 Valerie Drive - Kitchen	Backing on sheet flooring	No Asbestos Detected

Table 3-2
OU1 Phase 2 Waste Categories

Waste Type, RCRA Designation	Waste Definition
Contaminated Soil, F034 based on contained-in policy	Soils with PAH concentrations exceeding the Analytical Cleanup Goals (ACGs)
Soil, Non-hazardous	Any soils with PAH concentrations that do not exceed the ACGs
Debris, Non-hazardous	<ul style="list-style-type: none"> ■ Concrete slabs from demolition of building foundation, foundation walls, and sidewalk ■ Sewer pipe from storm sewer demolition ■ Other building materials ■ Boulders ■ Tree stumps from grubbing operations

Table 3-3
Universal Treatment Standards for F034 Waste

Regulated Hazardous Constituent		UTS for F034 Creosote Waste	10 Times UTS for F034 Contaminated Soil
Common Name	CAS No.	Concentration in mg/kg	Concentration in mg/kg
Acenaphthene	83-32-9	3.4	34
Anthracene	120-12-7	3.4	34
Benzo(a)anthracene	56-55-3	3.4	34
Benzo(b)fluoranthene	205-99-2	6.8	68
Benzo(k)fluoranthene	207-08-9	6.8	68
Benzo(a)pyrene	50-32-8	3.4	34
Chrysene	218-01-9	3.4	34
Dibenzo(a,h)anthracene	53-70-3	8.2	82
Fluorene	86-73-7	3.4	34
Indeno(1,2,3-c,d)pyrene	193-39-5	3.4	34
Naphthalene	91-20-3	5.6	56
Phenanthrene	85-01-8	5.6	56
Pyrene	129-00-0	8.2	82
Arsenic	7440-38-2	5.0 mg/l TCLP	NA
Chromium (Total)	7440-47-3	0.60 mg/l TCLP	NA

Table 3-4
LDR Treatment and Disposal Requirements

Waste Type, RCRA Designation	LDR Treatment Requirements	LDR Disposal Requirements
Contaminated Soil, F034 based on contained-in policy	<p>For soil with PAH concentrations >10 times UTS:</p> <ul style="list-style-type: none"> ■ Achieve a 90% reduction in PAH concentrations, or ■ Reduce PAH concentrations to less than 10 times the UTS. 	<p>Dispose of in Subtitle D landfill or equivalent after treatment.</p> <p>For soil with PAH concentrations <10 times UTS: Dispose in Subtitle C landfill or equivalent without treatment.</p>

Table 3-5
OU1 Phase 2 Material Disposal Summary

Facility	Address	Permit No.	Facility Type	Quantity (Tons)
Bennett Environmental Inc.	80 Rue Dez Melezes St. Ambrose, Quebec, Canada G7P2N4	7610-02-01- 0603816	Thermal Treatment and Disposal	61,190.46
CWM Chemical	1550 Balmer Road Model City, NY 14107	NYD 049836679	Subtitle C	24,163.50
Conestoga Landfill (Earthwatch)	420 Quarry Rd Morgantown, PA 19543	101509	Subtitle D	30,296.19

Table 3-6
OU1 Phase 2 Wastewater Treatment Plant Effluent Permit Requirements

Parameter	Effluent Discharge Limits	
	Monthly Average	Daily Maximum
TSS	Report ppm	40 ppm
TPH	10 ppm	15 ppm
TOC	Report ppm	20 ppm
Total Cr	50 ppb	100 ppb
Total Cu	50 ppb	100 ppb
Total Ni	72 ppb	144 ppb
Total Pb	37 ppb	79 ppb
Fluoranthene	25 ppb	68 ppb
Fluorene	22 ppb	59 ppb
Phenanthrene	22 ppb	59 ppb
Pyrene	25 ppb	67 ppb
Benzo(a)anthracene	Report ppb	10 ppb
Naphthalene	22 ppb	59 ppb
Benzene	Report ppb	7 ppb
Tetrachloroethylene	Report ppb	16 ppb
TBA	Report ppb	Report ppb
2,4- Dimethylphenol	18 ppb	36 ppb
Phenol	Report ppb	26 ppb
MTBE (influent)	Report ppb	Report ppb
MTBE (effluent)	Report ppb	70 ppb
MTBE % Removal	>85%	NA
Effluent Flow	Report GPD	Report GPD
Parameter	Minimum	Maximum
pH	6.0 s.u.	9.0 s.u.

Table 3-7
OU1 Phase 2 Wastewater Treatment Plant Sampling Requirements

Parameter	Function	Frequency	Analytical Method	Container	Preservatives
Flow	O&M	Every other hour	SES SOP	NA	NA
pH	O&M	Per shift	EPA 150.1	8 OZ Jar	Analyze immediately
pH	Permit	Twice a week*	EPA 150.1	125 ml HDPE	Cool 4 °C
TSS	Permit	Twice a week*	EPA 160.2	500 ml HDPE	Cool 4 °C
TPH	Permit	Twice a week*	QA-025	1 liter Amber	pH<2 HCl Cool 4 °C
TPH	O&M	Twice a week*	Hach 10052	100 ml Poly	Analyze immediately
TOC	Permit	Twice a week*	EPA 415.1	60 ml HDPE	pH<2 HCl Cool 4 °C
Total Cr	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Cr	O&M	Twice a week*	Hach 8024	100 ml Poly	Analyze immediately
Total Cu	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Cu	O&M	Twice a week*	Hach 8143	100 ml Poly	Analyze immediately
Total Ni	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Ni	O&M	Twice a week*	Hach 8150	100 ml Poly	Analyze immediately
Total Pb	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Pb	O&M	Twice a week*	Hach 8317	100 ml Poly	Analyze immediately
SVOC	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
MTBE (influent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
MTBE (effluent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
Benzene	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TCE	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TBA	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
2,4-Dimethylphenol	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
Phenol	Permit	Twice a week*	EPA 420.1	1 liter	pH<2 H ₂ SO ₄ Cool 4 °C
Phenol	O&M	Twice a week*	Hach 8047	100 ml Poly	Analyze immediately

* Sampling frequency changed to once a month as of June 7, 2005.

Table 3-8
OU1 Phase 2 Respirable Dust Monitoring Requirements

Parameters	Action Level ¹	Frequency ^{2,3} per location	Analytical Method	Action Required
Background				
Real Time (PM-10) ²		Continuous with 15-minute averages	Real Time	
High Volume (PM-10) ³		2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Coinciding with high volume sampling in resident areas.
Predominate Airborne Pathway - Each Targeted Residential Property or Perimeter Station Location During Excavation Activities				
Real Time (PM-10) ²	150 µg/m ³ ¹	Continuous with 15-minute averages	Real Time	Investigate to determine appropriate corrective action, which may include increasing dust control activities, checking and repairing instrumentation, or stopping work. The Contracting Officer's representative will be notified of all corrective action.
High Volume (PM-10) ³	150 µg/m ³	2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Evaluate and modify, as needed, real time action levels, dust control protocols, and corrective action requirements.
¹ Concentrations above background. ² Frequencies listed in the table are for active construction periods. ³ Monitoring during non-work hours (nights and weekends) will be required.				

Table 3-9
OU1 Phase 2 VOCs and PAHs Air Monitoring Requirements

Parameters	Action Level ¹ ppb	Frequency ^{2,3} per location	Analytical Method	Action Required
Background				
Total Volatile Organics		Full work shift and during high volume sampling events	Direct Reading	
PAHs and BTEX ³		2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	EPA T0-13 (PAHs) EPA T0-14 (VOCs)	
Predominate Airborne Pathway - Each Targeted Property During Excavation Activities				
Total Volatile Organics	10,000 2,000 300	Instantaneous 15-minute 8-hours corresponding to peak site operations	Direct Reading Direct Reading Direct Reading	Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance. Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance. Evaluate and implement corrective action prior to the start of the next shift. Notify CO, start work after CO acceptance.
PAHs and BTEX ³	BTEX= OEL ⁴ /100 Naphthalene= OEL/100 PAHs ⁵ =CTPV ⁶ /100	2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	T0-13 (PAHs) T0-14 (VOCs)	
¹ Concentrations above background. ² Frequencies listed in the table are for active construction periods. ³ Monitoring during non-work hours (nights and weekends) is required. Objective for control of vapor during non-work hours is to maintain concentrations at or near background levels. ⁴ Occupational Exposure Limit (OEL) - Time Weighted Average. ⁵ Sum all detected PAHs, including Naphthalene. ⁶ Coal Tar Pitch Volatile Threshold Limit Value.				

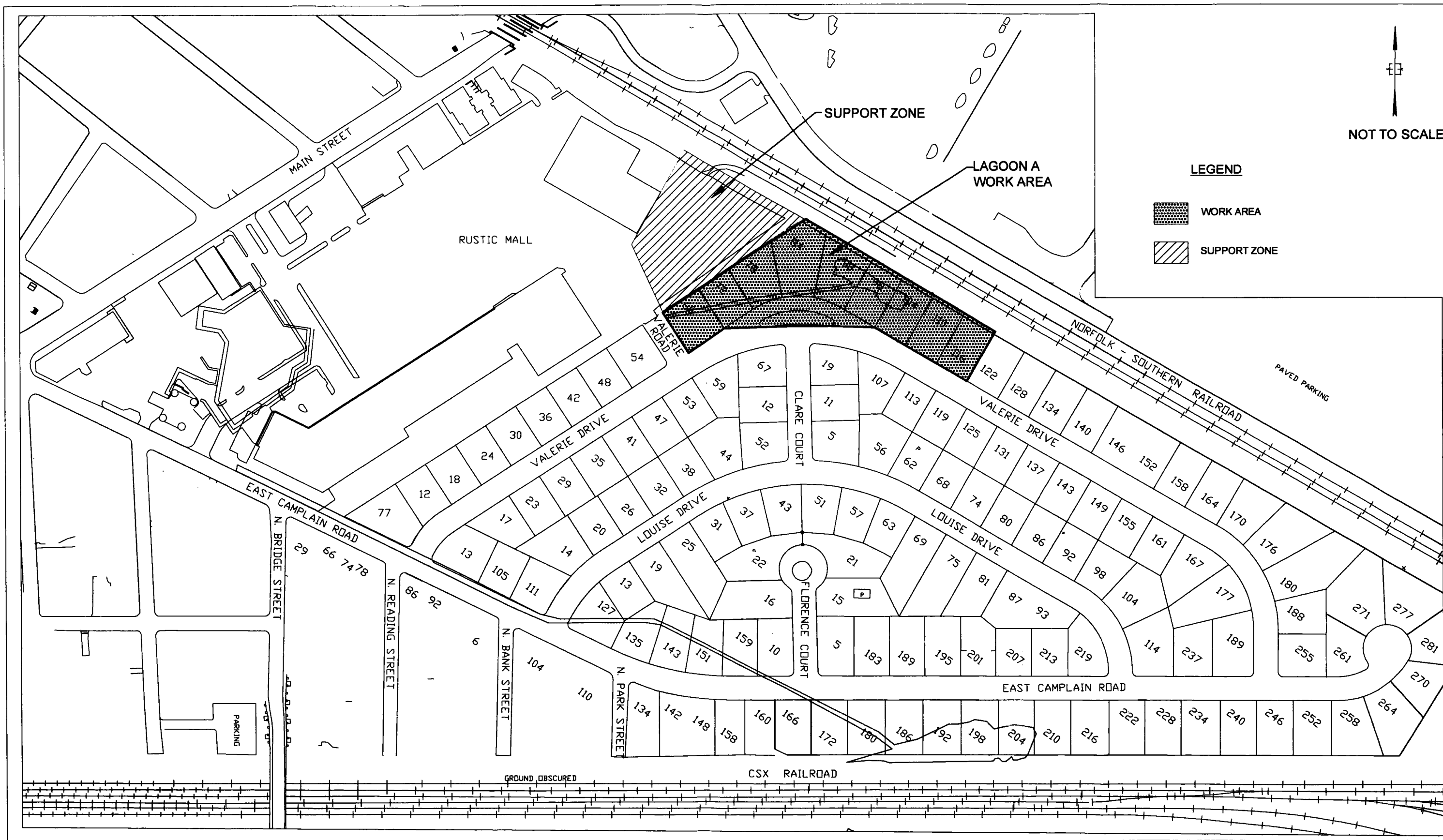
Table 3-10
OU1 Phase 2 Air Monitoring Exceedances

Item	Date	Instrument	Issue	Cause	Corrective Action
Real-Time Air Monitoring Issues					
1	September 2003	Dust Track Aerosol monitor	Elevated Dust levels recorded by instrument.	Dry conditions along haul road.	Dust control measures were implemented to successfully reduce the concentration of dust.
2	September 2003	Dust Track Aerosol monitor	Elevated Dust levels recorded by instrument.	An increase of humidity levels over night above 90%.	Field personnel attempted to anticipate and avoid drastic atmospheric weather changes during sampling events.
Air Sampling Issues					
1	March 2004	PUF Sampler/ TO13	Invalid results.	The extraction procedure used did not enable the lab to achieve the detection limits required by the method.	Laboratory revised the extraction procedure and performed a method detection limit study to validate their revised procedure.
2	April 2004	PUF Sampler/ TO13	Analytical data show elevated SVOC results.	Incorrect interpretation of lab data in the field. The background station results were not subtracted from the results of the other stations.	Report was corrected then resubmitted.

Table 10-1
OU1 Phase 2 Key Project Contacts

Name	Title	Organization	Address
Rich Puvogel	Project Manager	EPA	290 Broadway New York, NY 10038
Todd Daniels	Project Manager	USACE KC	601 East 12 th Street Kansas City, MO 64106
Neal Kolb	Resident Engineer	USACE NY	26 Rustic Mall Manville, NJ 08835
Gordon McDonald Ed McClusick Kim Lickfield Joel Czachorowski	Project Manager	SES	2749 Lockport Road Niagara Fall, NY 14305
Michael Popper	Project Manager	CDM	Raritan Plaza I, Raritan Center, Edison, NJ 08818

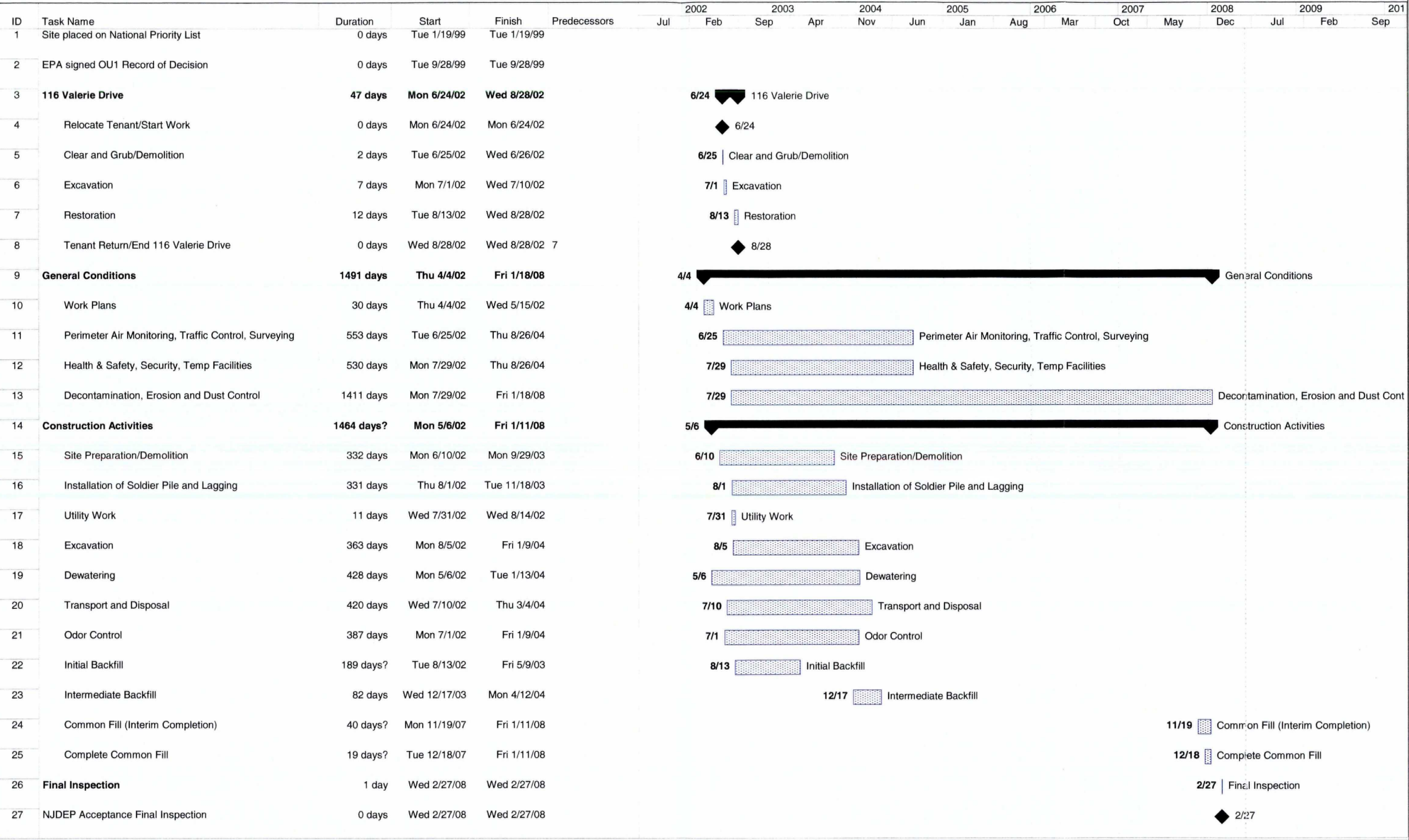
FIGURES



FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

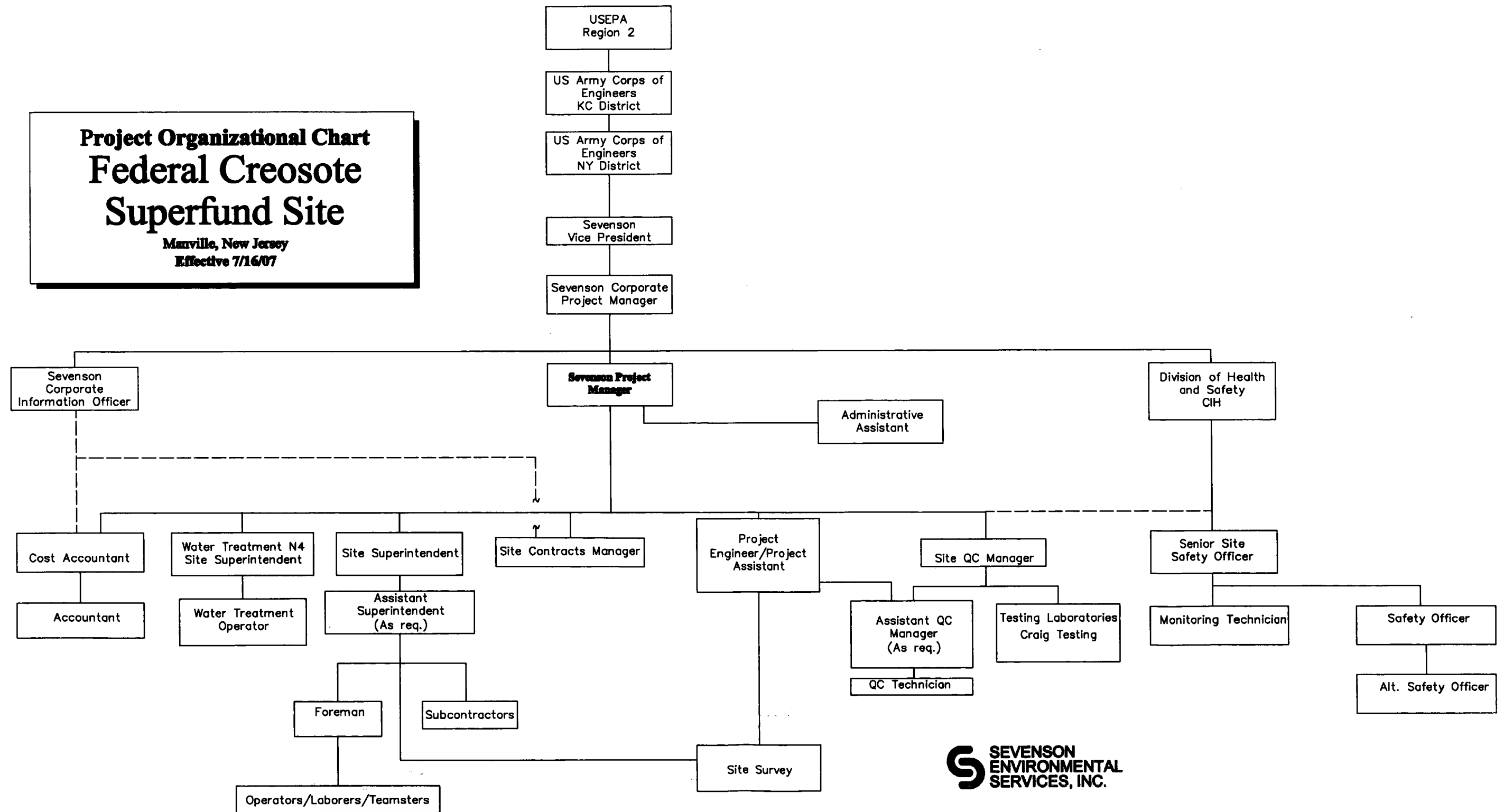
FIGURE 1-1
GENERAL SITE OVERVIEW
OU1 PHASE 2- LAGOON A

Figure 4-1 Chronology of Events



Project Organizational Chart Federal Creosote Superfund Site

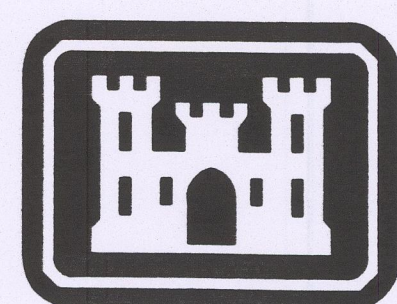
Manville, New Jersey
Effective 7/16/07



OUI Phase 2

Appendix A will be provided upon receipt.

APR 02 2002



US Army Corps
of Engineers

Kansas City District

FEDERAL CREOSOTE SUPERFUND SITE

DEMOLITION

MANVILLE, SOMERSET COUNTY, NEW JERSEY

APRIL 2000

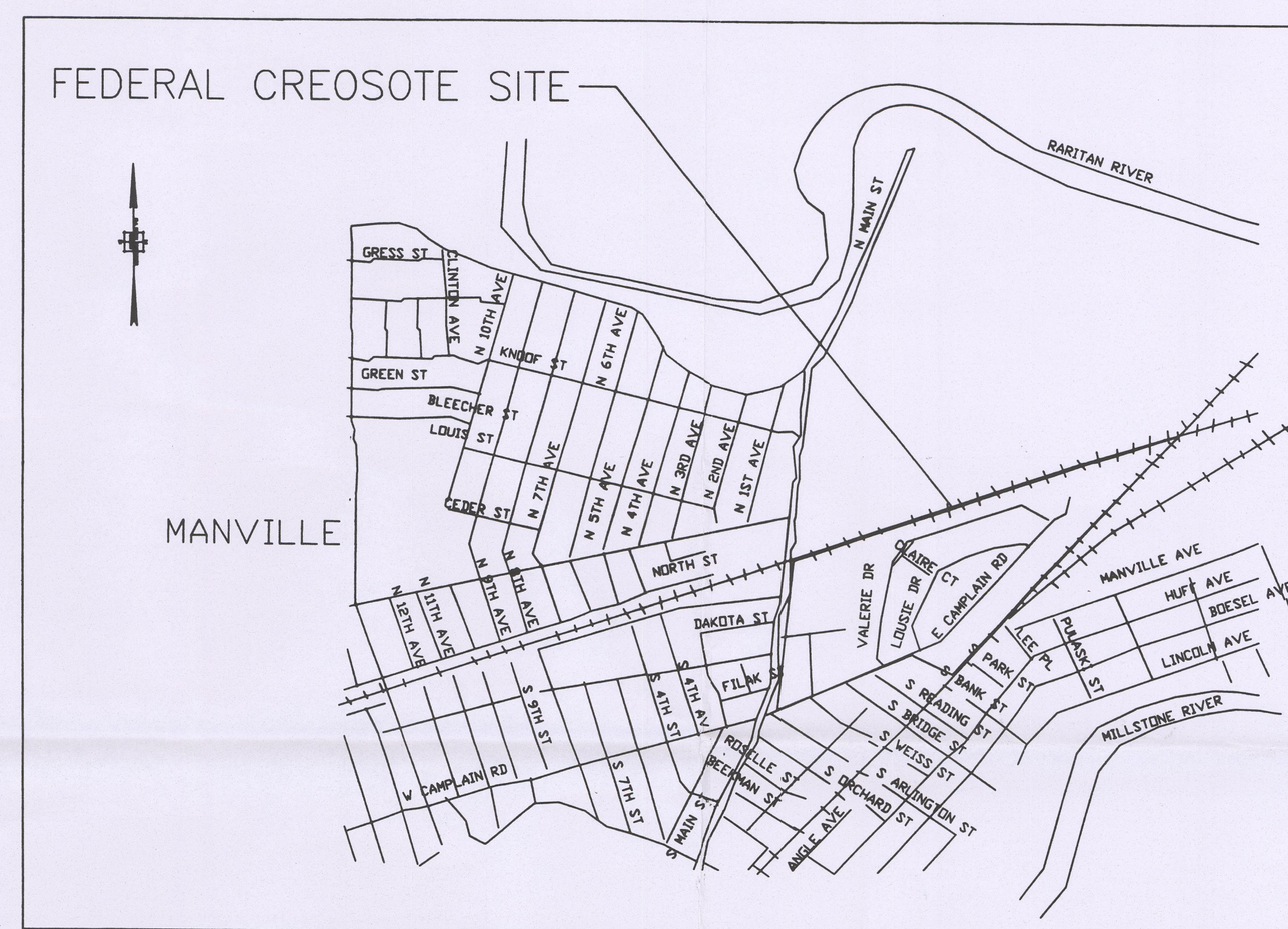
Prepared By:

CDM Federal Programs Corporation
a Subsidiary of Camp Dresser & McKee Inc.

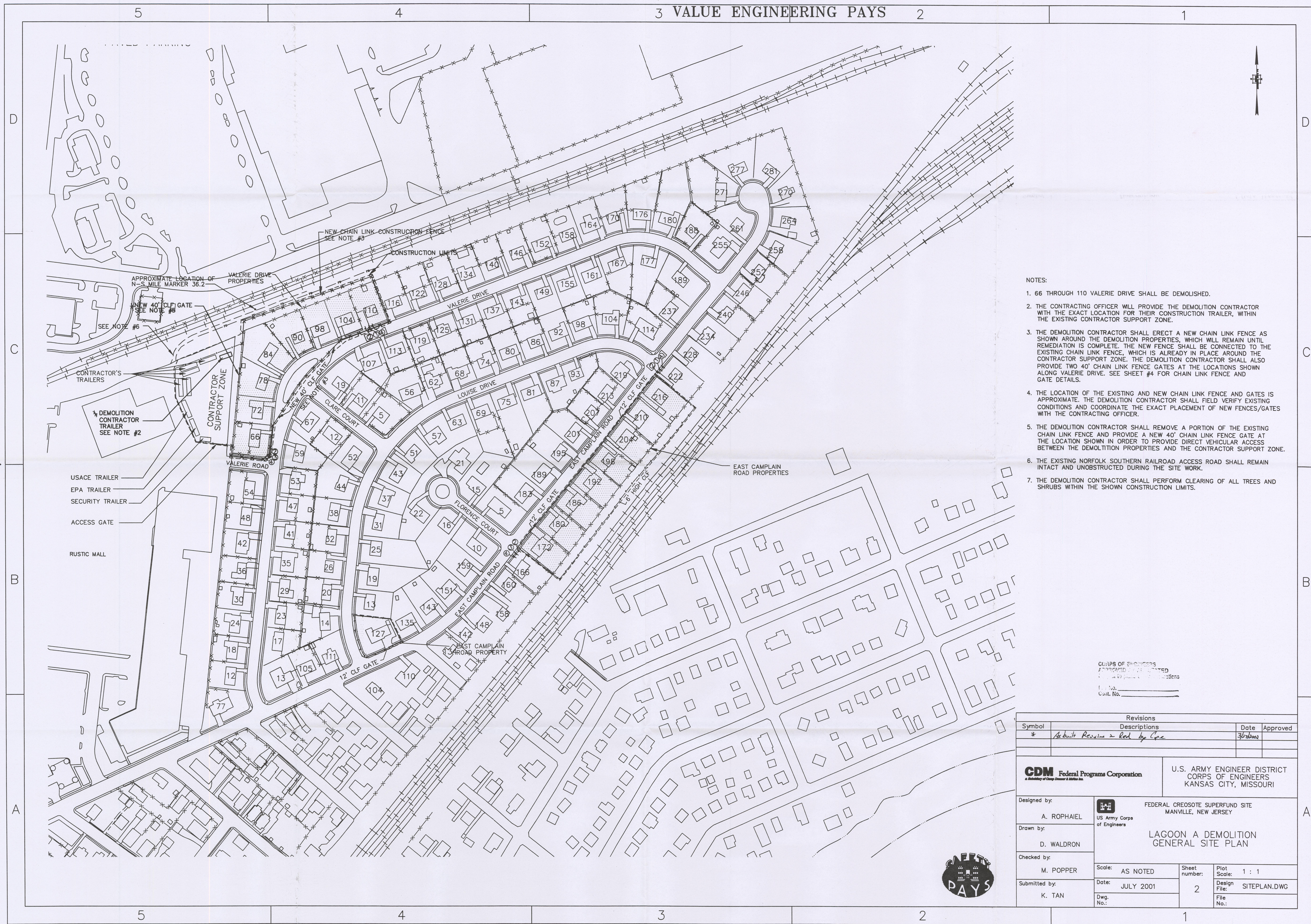
CONTRACT NO. DACW41-99-D-9009

AS-BUILT DRAWINGS (SHEETS 2 AND 3 ONLY)
PREPARED BY: CAPE ENVIRONMENTAL
20 FEBRUARY 2002

NOTE: AS-BUILTS ONLY APPLY TO SHEETS 2 AND 3. WORK ON ALL
OTHER SHEETS PERFORMED AS SHOWN ON RECORD DRAWINGS.




LOCATION MAP

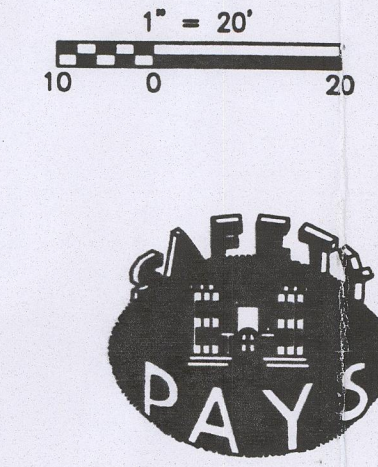


NOTES:



1. 66 THROUGH 110 VALERIE DRIVE SHALL BE DEMOLISHED.
2. THE CONTRACTING OFFICER WILL PROVIDE THE DEMOLITION CONTRACTOR WITH THE EXACT LOCATION FOR THEIR CONSTRUCTION TRAILER, WITHIN THE EXISTING CONTRACTOR SUPPORT ZONE.
3. THE DEMOLITION CONTRACTOR SHALL ERECT A NEW CHAIN LINK FENCE AS SHOWN AROUND THE DEMOLITION PROPERTIES, WHICH WILL REMAIN UNTIL REMEDIATION IS COMPLETE. THE NEW FENCE SHALL BE CONNECTED TO THE EXISTING CHAIN LINK FENCE, WHICH IS ALREADY IN PLACE AROUND THE CONTRACTOR SUPPORT ZONE. THE DEMOLITION CONTRACTOR SHALL ALSO PROVIDE TWO 40' CHAIN LINK FENCE GATES AT THE LOCATIONS SHOWN ALONG VALERIE DRIVE. SEE SHEET #4 FOR CHAIN LINK FENCE AND GATE DETAILS.
4. THE LOCATION OF THE EXISTING AND NEW CHAIN LINK FENCE AND GATES IS APPROXIMATE. THE DEMOLITION CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE THE EXACT PLACEMENT OF NEW FENCES/GATES WITH THE CONTRACTING OFFICER.
5. THE DEMOLITION CONTRACTOR SHALL REMOVE A PORTION OF THE EXISTING CHAIN LINK FENCE AND PROVIDE A NEW 40' CHAIN LINK FENCE GATE AT THE LOCATION SHOWN IN ORDER TO PROVIDE DIRECT VEHICULAR ACCESS BETWEEN THE DEMOLITION PROPERTIES AND THE CONTRACTOR SUPPORT ZONE.
6. THE EXISTING NORFOLK SOUTHERN RAILROAD ACCESS ROAD SHALL REMAIN INTACT AND UNOBSTRUCTED DURING THE SITE WORK.
7. THE DEMOLITION CONTRACTOR SHALL PERFORM CLEARING OF ALL TREES AND SHRUBS WITHIN THE SHOWN CONSTRUCTION LIMITS.

CORPS OF ENGINEERS
APPROVED AND DATED
1 JUL 2001
Cont. No. _____

Revisions			
Symbol	Descriptions	Date	Approved
*	As built Revision 2 Red by Cpe	3/1/2001	
CDM Federal Programs Corporation <small>a subsidiary of Camp Dresser & McKee Inc.</small>		U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by: A. ROPHAEL		 FEDERAL CREOSOTE SUPERFUND SITE MANVILLE, NEW JERSEY LAGOON A DEMOLITION GENERAL SITE PLAN	
Drawn by: D. WALDRON			
Checked by: M. POPPER		Scale: AS NOTED	Sheet number: 2
Submitted by: K. TAN		Date: JULY 2001	Plot Scale: 1 : 1
		Dwg. No.:	Design File: SITEPLAN.DWG
			File No.:



1. SITE SURVEY PREPARED BY ZAMBRANA ENGINEERING INC., ST. LOUIS, MISSOURI, DECEMBER, 1999. THE HORIZONTAL POSITION OF THE SURVEY IS BASED ON NEW JERSEY STATE PLAIN COORDINATE SYSTEM NAD 83--86. ELEVATION RELATIVE TO THE NGVD 1929 DATUM. SITE SURVEY FILES INCLUDING PROPERTY LINES WILL BE MADE AVAILABLE TO THE CONTRACTOR FOR ITS USE IN LAYING OUT THE WORK AREA AFTER AWARD OF CONTRACT.
2. THE DEMOLITION CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION--RELATED CONDITIONS PRIOR TO STARTING DEMOLITION AND SHALL COORDINATE WITH THE LOCAL UTILITY AUTHORITIES TO DISCONNECT/REMOVE ALL UTILITY SERVICES/LINES AT 66--110 VALERIE DRIVE, AS DESCRIBED ON SHEET #1, GENERAL NOTES.
3. THE SHOWN OVERHEAD UTILITY LINES SHALL BE REMOVED BY THE DEMOLITION CONTRACTOR. UTILITY POLES SHALL REMAIN IN PLACE.
4. THE DEMOLITION CONTRACTOR SHALL DEMOLISH ALL ABOVE GROUND STRUCTURES AND BASEMENT INTERIORS AS SHOWN ON THIS CONTRACT DRAWING AND AS DESCRIBED IN SPECIFICATION SECTION 02220. BASEMENT VOID SPACES SHALL BE BACKFILLED WITH 1 1/2" QUARRY PROCESS MATERIAL AS SHOWN IN THE DETAIL ON SHEET #4.
5. ALL EXISTING TREES AND BUSHES AT THE NORFOLK SOUTHERN RAILROAD RIGHT--OF--WAY, WITHIN THE CONSTRUCTION LIMITS SHOWN, SHALL BE REMOVED AND DISPOSED OF OFFSITE.
6. THE DEMOLITION CONTRACTOR SHALL NOT BE PERMITTED TO USE THE NORFOLK SOUTHERN RAILROAD ACCESS ROAD UNLESS APPROVED BY THE CONTRACTING OFFICER.

Revisions			
Symbol	Descriptions	Date	Approved
#	<i>As-Built revisions As Spec in Red</i>	<i>3/4/2004</i>	
 CDM Federal Programs Corporation <small>A subsidiary of Camp Dresser & McKee Inc.</small>		U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:		FEDERAL CREOSOTE SUPERFUND SITE MANVILLE, NEW JERSEY DEMOLITION PLAN 66-110 VALERIE DRIVE	
A. ROPHAIEL			
Drawn by:			
D. WALDRON			
Checked by:		 US Army Corps of Engineers	
M. POPPER			
Submitted by:		Scale:	Sheet number:
K. TAN		AS NOTED	3
Date:		Design	Plot
JULY 2001		File:	1 : 1
Dwg. No.:		File	CLUSTERA.DWG
		No.	

WASTE MANAGEMENT OF PENNSYLVANIA, INC.
1121 Bordentown Road
Morrisville, PA 19067
(5) 736-9400 (To Schedule)

Document Reference No.. 01 A 13695

Equipment
for T. 1500
Agency

ASBESTOS WASTE SHIPMENT RECORD

1. WORK SITE NAME & MAILING ADDRESS 78 VALERIE DRIVE MANVILLE NJ 08835		Owner's Name FEDERAL CREOSOTE SITE	Owner's Phone No. 201-641-9400
2. OPERATOR NAME & ADDRESS AIR CLEAN INC 450 SO. RIVER ST. HACKENSACK, NJ 07601		Operator's Phone 201-641-9400	
3. WASTE DISPOSAL SITE: G.R.O.W.S., Inc. 1513 Bordentown Road Morrisville, PA 19067 (215) 736-9475		CIRCLE ONE Tullytown Resource Recovery Facility 200 Bordentown Road Tullytown, PA 19007 (215) 943-9732	
4. NAME and ADDRESS OF RESPONSIBLE AGENCY USEPA AIR COMPLIANCE BRANCH, REGION II 200 BROADWAY NEW YORK, NY 10007			
5. DESCRIPTION OF MATERIALS CIRCLE ONE: FRIABLE NON-FRIABLE	6. CONTAINERS (bags/drums) no. _____ type _____ SL		7. QUANTITY 20 yds.
PROFILE/WASTE STREAM ID NUMBER: WMA 544990			
8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ			
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/Typed Name and Title MARCIA A. LUDWIG (Regional Director II)		Signature [Signature]	Date 12/21/11
10. TRANSPORTER (Acknowledgment of receipt of materials) Address and Phone No. DJT Corp Inc 2 FISH HOUSE RD., SO. KEARNY, NJ, 07032 201-997-8870			
Printed/Typed Name and Title TRIMIAN CASTRO - PVR		Signature [Signature]	Date 12-21-11
11. DISCREPANCY INDICATION SPACE:			
12. WASTE DISPOSAL SITE - Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 11.			
Printed/Typed Name and Title [Signature]		Signature [Signature]	Date 12/21/11

WASTE MANAGEMENT OF PENNSYLVANIA, INC.
1121 Bordentown Road
Morrisville, PA 19067
(215) 736-9400 (To Schedule)

Document Reference No. 91 A 13696

ASBESTOS WASTE SHIPMENT RECORD

GENERATOR	1. WORK SITE NAME & MAILING ADDRESS FEDERAL CROSOTE SUPERFUND SITE, NJ, 02835		Owner's Name ENVIRONMENTAL PROTECTION AGENCY	Owner's Phone No. 908-243-0118
	2. OPERATOR NAME & ADDRESS AIR CLEAN INC 450 SO. RIVER ST, HACKENSACK, NJ, 07061			Operator's Phone 201-641-9400
	3. WASTE DISPOSAL SITE: G.R.O.W.S., Inc. 1513 Bordentown Road Morrisville, PA 19067 (215) 736-9475		CIRCLE ONE Tullytown Resource Recovery Facility 200 Bordentown Road Tullytown, PA 19007 (215) 943-9732	
	4. NAME and ADDRESS OF RESPONSIBLE AGENCY US EPA AIR COMPLIANCE BRANCH, REGION II 290 BROADWAY NEW YORK, NY, 10007			
TRANSPORTER	5. DESCRIPTION OF MATERIALS CIRCLE ONE: FRIABLE NON-FRIABLE		6. CONTAINERS (bags/drums) no. _____ type LOOSE	7. QUANTITY 20 yds.
	PROFILE/WASTE STREAM ID NUMBER: WMA 544990			
	8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ			
DISPOSAL FACILITY	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
	Printed/Typed Name and Title MATTHEW A. LUDWIG - (AS A AGENT FOR USEPA Region II)		Signature <i>Matthew A. Ludwig</i>	Date 21-DEC-2001
	10. TRANSPORTER (Acknowledgment of receipt of materials) Address and Phone No. DJM Corp Inc 2 FISH HOUSE RD SO KEARNY NJ 07032 201-997-8870			
DISPOSAL FACILITY	Printed/Typed Name and Title TRUMAN CASTRO SUPERVISOR		Signature <i>Truman Castro</i>	Date 12-21-01
	11. DISCREPANCY INDICATION SPACE:			
	12. WASTE DISPOSAL SITE - Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 11.			
DISPOSAL FACILITY	Printed/Typed Name and Title		Signature	Date

LANDFILL

WASTE MANAGEMENT OF PENNSYLVANIA, INC.

1121 Bordentown Road
Morrisville, PA 19067
(215) 736-9400 (To Schedule)

Document Reference No.. 01 **A 10501****ASBESTOS WASTE SHIPMENT RECORD**

GENERATOR	1. WORK SITE NAME & MAILING ADDRESS FEDERAL CROSOTE SUPERFUND SITE, NJ, 02835		Owner's Name ENVIRONMENTAL PROTECTION AGENCY	Owner's Phone No. 908.243.0118
	2. OPERATOR NAME & ADDRESS AIR CLEAN INC 450 SO. RIVER ST, HACKENSACK, NJ, 07061			Operator's Phone 201.641.9400
	3. WASTE DISPOSAL SITE: CIRCLE ONE G.R.O.W.S., Inc. 1513 Bordentown Road Morrisville, PA 19067 (215) 736-9475 Tullytown Resource Recovery Facility 200 Bordentown Road Tullytown, PA 19007 (215) 943-9732			
	4. NAME and ADDRESS OF RESPONSIBLE AGENCY US EPA AIR COMPLIANCE BRANCH, REGION II 190 BROADWAY NEW YORK, NY, 10007			
TRANSPORTER	5. DESCRIPTION OF MATERIALS CIRCLE ONE: FRIABLE NON-FRIABLE		6. CONTAINERS (bags/drums) no. _____ type LOOSE	7. QUANTITY 20 yds.
	PROFILE/WASTE STREAM ID NUMBER: WMA 544990			
	8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ			
DISPOSAL FACILITY	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
	Printed/Typed Name and Title Neal F. Kolb, WARE FOR USEPA <i>AS AN AGENT</i>		Signature <i>[Signature]</i>	Date 01 JANUARY 2002
	10. TRANSPORTER (Acknowledgment of receipt of materials) Address and Phone No. DJM Corp Inc 2 Fish House Rd So. KERNY, NJ, 07032 201.997.8870			
DISPOSAL FACILITY	Printed/Typed Name and Title		Signature	Date
	11. DISCREPANCY INDICATION SPACE:			
DISPOSAL FACILITY	12. WASTE DISPOSAL SITE - Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 11.			
	Printed/Typed Name and Title		Signature	Date

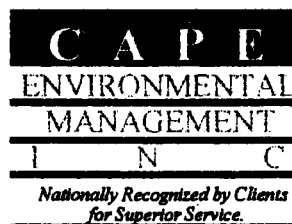
ASBESTOS SAFETY CONTROL MONITOR REPORT

FEDERAL CREOSOTE SUPERFUND SITE DEMOLITION - LAGOON A BOROUGH OF MANVILLE

Prepared For:

**U.S. Army Corps of Engineers
Kansas City District
757 Federal Building
601 East 12th Street
Kansas City, Missouri 64106**

Prepared By:



**12535 Hollingsworth Road
Kansas City, KS 66109**

**Kurt Gates, Project Manager
Contract No. DACW41-00-D-0021
Delivery Order No. 002
CAPE Project Number 00310.003.000**

February 2002

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APPENDIX A DAILY LOGS

APPENDIX B LABORATORY ANALYTICAL REPORTS FOR AIR SAMPLES

APPENDIX C LABORATORY ANALYTICAL REPORTS FOR BULK SAMPLES

APPENDIX D WASTE MANIFEST RECORDS

1.0 INTRODUCTION

Project: The asbestos abatement project involved the removal of various asbestos containing materials which included asbestos-containing floor tile, vinyl sheeting and exterior cement board siding.

Location: Federal Creosote Superfund Site
66, 72, 78, 84, 90, 98, 104, and 110
Valerie Drive
Manville, NJ 08835

Client: US Army Corps of Engineers
Environmental Residency
214 State Highway 18
New Brunswick, NJ 08816

**Abatement Contractor/
CAPE's Subcontractor:** Air Clean, Inc.
450 South River Street
Hackensack, NJ 07601

Construction Management Project Manager: Kurt Gates

**Abatement Supervision and
Air Monitoring Project Monitor:** Eric Lynch and Judy Myak

US Army Corps of Engineers contracted Cape Environmental Management Inc (CAPE) to provide construction management and area air monitoring of fiber concentrations during the asbestos removal and demolition at the Federal Creosote Superfund Site. The purpose of the construction management was to:

1. Provide asbestos abatement prior to demolition of buildings 66, 72, 78, 84, 90, 98, 104, and 110 located on Valerie Drive in Manville, NJ.
2. Provide Environmental and OSHA compliance air sampling during asbestos abatement activities.
3. Provide construction management to ensure compliance with Federal, State, and local regulations.

Environmental and quality control area air sampling was conducted to:

1. Monitor the levels of airborne fibers inside and outside of the work area during the abatement activities.

2. Perform final clearance sampling after completion of abatement activities.
3. Perform OSHA compliance air sampling on workers during abatement.

Refer to **Appendix A** for CAPE's daily field logs, **Appendix B** for the analytical laboratory reports of PCM air sampling, **Appendix C** for asbestos bulk sample results, and **Appendix D** for Waste Manifest Records.

2.0 PROJECT SPECIFIC GUIDELINES

Various health standards and guidelines have been established for exposure to airborne asbestos fibers. They can be grouped into those that apply to employees and those to the general public.

The Occupational Safety and Health Administration (OSHA) adopted 29 CFR 1926.1101 (Construction Industry) on October 11, 1994 that superseded 29 CFR 1926.58. OSHA also adopted a revised version of general industry standard 29 CFR 1910.1001 that was effective October 11, 1994. These standards mandate a permissible exposure limit of 0.1 fibers per cubic centimeter (f/cc) of air as determined on an 8-hour time-weighted average basis at which time medical monitoring and training are required. These standards also impose a short-term exposure limit (excursion limit) of 1.0 f/cc over a sampling period of 30 minutes.

Standards and guidelines pertaining to the general occupancy and the public are established by the U.S. Environmental Protection Agency (EPA). The EPA recommended guideline for final clearance standards is less than or equal to 0.01 f/cc (Asbestos Hazard Emergency Response Act (AHERA) 40 CFR 763.90).

3.0 PROJECT DISCUSSION

The scope of work included 8 houses of which 6 had interior and 6 had exterior abatement work areas. See Appendix B for the location and quantities of asbestos materials removed per work area.

Asbestos abatement activities began December 19, 2001 and ended on January 9, 2002. The residences were unoccupied prior to abatement activities.

Unless noted otherwise, the work area preparation included the following:

1. Constructing a remote three-stage decontamination (decon) unit including a shower and a shower water filtration system to filter fibers down to five microns. For each interior work area, a one-stage decon unit was constructed that did not include a shower. For exterior work areas, decon units were not required.
2. Constructing containments using 2 layers of 6-mil polyethylene fire retardant sheeting with the decon units physically attached. For exterior work areas, containments were not required.

3. **Establishing Regulated Areas (RA's)** by posting of asbestos danger signs on the containments as well as all doors and on barrier tape for outside work, as warranted.
4. **Pre-cleaning** of the work areas by wet wiping and HEPA vacuuming prior to setting up containments or demarcating the exterior work areas.
5. **Sealing** of critical barriers with 2 layers of 6-mil polyethylene sheeting. Caution tape was used to demarcate the exterior work area.
6. **Using HEPA filtration exhaust units** rated at 2,000 CFM to maintain a negative air pressure differential inside the work area. These units are required to filter at least 99.97% of fibers down to 0.3 microns. One back up HEPA filtration exhaust unit rated at 2,000 CFM was also available for each work area.

Unless noted otherwise, removal activity for the work areas included the following:

1. CAPE performed a visual inspection prior to asbestos abatement.
2. Wearing a minimum of two disposable Tyvek suit with attached head and foot coverings and a half-face air-purifying respirator equipped with HEPA filters, only after OSHA results warranted a downgrade (approved by Cape's SSHM).
3. Sufficient wetting of asbestos-containing material with amended water prior to removal.
4. CAPE conducted a final visual inspection of the work area once abatement was complete. Following the visual inspection, approval to encapsulate the interior work areas was granted.
5. Encapsulation of surfaces within the interior work areas using a lockdown encapsulant.
6. CAPE conducted clearance sampling of the interior work areas.
7. Tearing down of the containment once the clearance criteria was met (except for exterior work areas).

4.0 A SUMMARY OF REMOVAL AND DISPOSAL ACTIVITIES

4.1 Floor Tile/Sheet Vinyl Removal

Removal activity for the work areas included the following:

1. Wearing a minimum of two disposable Tyvek suits with attached head and foot coverings and a half-face air-purifying respirator with HEPA filters

2. Sufficiently wetting of asbestos-containing material with amended water prior to removal.
3. Gross removal of asbestos-containing floor tile and/or vinyl sheeting.
4. Conducting a final visual inspection, by CAPE, of the work area once abatement was complete. Following the visual inspection, approval to encapsulate was granted.
5. Encapsulation of surfaces within the work area using a penetrating/lockdown encapsulant.
6. Conducting clearance sampling of the work area by CAPE.
7. Tearing down of the containment once the clearance criteria was met.

4.2 Exterior Cement Board Siding Removal

Removal activity for cement board included the following:

1. Wearing two disposable Tyvek suits with attached head and foot coverings, and a half-face air-purifying respirator with HEPA filter.
2. Sufficiently wetting of asbestos-containing materials with amended water.
3. The gross removal of all asbestos-containing cement board siding using drop cloths, ladders and a boom lift for high work areas.
4. Clean up of asbestos debris with HEPA vacuums.
5. Conducting a final visual inspection, by CAPE, of the work area once abatement was complete.

4.3 Disposal

Asbestos-containing and contaminated materials were placed into 6-mil polyethylene bags, or double wrapped in 6-mil poly and were sealed. A second 6-mil polyethylene bag was then placed over the original bag, sealed with duct tape, and properly labeled. Double-bagged/ wrapped asbestos waste was loaded directly into the onsite covered waste container. DJM Company Inc. of South Kearny, NJ, transported the Non-Friable asbestos waste and disposed at Tullytown Resource Recovery Facility, DEP Permit Number 17273, in Tullytown, Pa.

5.0 SUMMARY OF AIR SAMPLING RESULTS

5.1 Daily and Personal Air Sampling

Daily project and personal air samples were analyzed by International Asbestos Testing Laboratory (IATL) of Mt. Laurel, NJ. All samples were analyzed via Phase Contrast Microscopy (PCM) in accordance with NIOSH method 7400, Revision 2. Samples exceeding established limits were reanalyzed via Transmission Electron Microscopy (TEM).

Ongoing daily project samples were collected from inside and outside each asbestos work area. Personal air samples were collected on a daily basis.

A summary of project sample results and the analytical laboratory reports are provided in Appendix B.

5.2 Final Clearance Sampling

After passing a visual inspection, aggressive final clearance sampling techniques were used in each interior asbestos work area. Final clearance air samples were analyzed via PCM by IATL. The work areas were considered clean when the reported sample results were less than the 0.01 f/cc re-occupancy standard.

All interior work areas met the EPA's clearance criteria of <0.01 f/cc and were approved for demolition. The exterior work areas passed a visual inspection performed by CAPE and were approved for demolition.

A summary of project sample results and the analytical laboratory reports are provided in Appendix B.

APPENDIX A

Daily Logs

Date: 12-19-01

CAPE

ENVIRONMENTAL MANAGEMENT

I N C

DAILY FIELD REPORT SUMMARY

PROJECT NAME: FCSS Lagoon A

PROJECT NUMBER: 00310.003.000

LOCATION: Marville, NJ

DATE: 12-19-01

Contractor

Air Clean

Total # Workers: 9

Contractor

Shift

Day time

CEN Industrial

Judy Myak

WORK

AREA:

exterior 66

PHASE:

☒ Preparation

☒ Removal

☒ Final Cleaning

☐ Clearance

A. Today's Work:

Conduct Health and Safety Review gm

Conduct HazCom and site orientation gm

Remove exterior siding from house 66. gm

See supplement
MM 12/4/02
Next page

B. Air Monitoring/Analysis:

1 lot blank, 1 field Blank

2 Personals, Rick Mueller (128-60-3358) Maria Portillo (157-22-9250).

(Rick is Cape employee, Maria is with Air Clean) gm

2 Ambient samples, South Perimeter of house 66 and

North Perimeter of house 66. gm

Date: 12-19-01

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s):

Initial inspection of preparation work on house CG.
Final Visual on House CG. RM

D. Non-Conformances:

N/A

E. Corrective Actions (For each item above):

N/A

F. General
Comments:

Contractor placing poly sheeting on
ground around house. Siding is being removed with
wet methods and placed into bags. Dumpster on
site is lined. "Asbestos Warning" signs are on dumpster.
Dumpster is opened top, but will be covered at night.
Contractor using yellow caution and red asbestos danger tape
to mark off area. Contractor wearing respirators and double suits
inside marked off work area. RM

Copies To:

Signature: RM

Title

Industrial Hygienist

Date: 12-19-01

DAILY FIELD
REPORT
SUMMARY

0700 - Cape on site JM

0710 - Greg Birch conducted Tool Box Safety mtg. with Cape Crew JM

0800 - Air Clean on site (1 cp, 1 supervisor, 6 workers)

Greg and I reviewed submittals and certifications JM

Air Clean Crew: Truman Castro (comp. person)

Angel Diaz (supervisor)

Juan Aguirre

Robert Debois

Ronald Womack

Carlos Ruiz

William Happe

Maria Sierra

Maria Portillo

0830 Mike Mount, Cape Safety and Health Mgr. conducted H+S Plan Review, Hazcom and site orientation with Air Clean.

0930 Review/orientation Complete JM

1000 Air Clean begins construction of decontamination unit JM

1100 Weekly Progress mtg. ~~decontamination~~ held with CAPE + HACE.

1215 Preparatory mtg. for asbestos removal is conducted JM

1240 Transite siding removal begins on house 66 Valerie Dr.

1330 Transite siding removal in process. Contractor bagging siding as it is being removed. Taking bags in skid steer to dumpster. Dumpster is lined with poly and signed JM

1400 Siding is off house. Crew begins cleanup.

1410 Final visual conducted. Air monitor pumps collected.

Crew removed all bags and placed into dumpster.

Dumpster covered with tarp JM

1430 Air Clean off site JM

Date: 1/4/02

Supplement
to 12/19/01

DAILY FIELD
REPORT
SUMMARY

1/4/02 A sample (No. 12-19-01^{03A}) resulted in a fiber concentration of >0.1 . The worker was removing vinyl siding from a house #66. The siding was installed over asbestos cement siding. A fiber board insulation ~~was~~ installed under the vinyl. This fiber board may have contributed to airborne fiber concentrations. We will have the sample analyzed by TEM to distinguish non-asbestos fibers from asbestos fibers.
Mike Mount CH
1/4/02

Date: 12-20-01

**DAILY FIELD
REPORT
SUMMARY**

CAPE

**ENVIRONMENTAL
MANAGEMENT**

I N C

PROJECT NAME: FCSS Lagoon A

PROJECT NUMBER: 00310.003.000

LOCATION: Manville, NJ

DATE: 12-20-01

Contractor

Air Clean

Total # Workers: 9

Contractor

Shift

Day time

CEM Industrial

Judy Myak

WORK

AREA:

exterior 72, exterior 90, exterior 78 (high area only)

PHASE:

☒ Preparation

☒ Removal

☒ Final Cleaning

☐ Clearance

A. Today's Work:

Remove exterior siding on House 72. — gm

Remove exterior siding on House 90. — gm

Remove exterior siding on House 78 (high area) — gm

B. Air Monitoring/Analysis:

1 - lot Blank

1 - field Blank — gm

2 Personals: 1 on Maria Portillo (156-80-8518); Robert Debris (135-58-3776);

5 Ambient - North of House 72; Southwest of House 72;

East of house 72; North fence line behind 90; South

fence line in front of 90. — gm

Date: 12-20-01

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s):

Visual inspection of Preparation work on house 72 gm
Visual inspection of Preparation work on house 90 gm
Final Visual on House 72 gm
Final Visual on House 90 gm
Visual inspection of Preparation work on house 78 gm

D. Non-Conformances:

N/A

E. Corrective Actions (For each item above):

N/A

F. General
Comments:

House 78 - not complete.
House 90 not complete - contractor to finish
90 when get proper lift equipment.

Copies To: _____

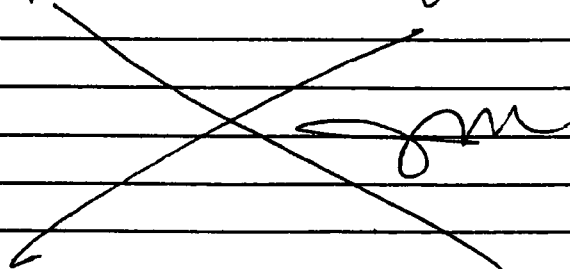
Signature: gtr

Title Industrial Hygienist

Date: 12-20-01

**DAILY FIELD
REPORT
SUMMARY**

- 0700 - Air Clean crew (9) on site _____ gm
- 0755 - Conducted Tool Box Safety meeting topic was
hypothermia, ladder safety and proper removal
procedures _____ gm
- 0740 - Air Clean starts prep on house 72 _____ gm
- 0800 - Air monitor pumps placed (3 area + 2 personal) _____ gm
- 0830 - Prep work is complete and initial inspection conducted _____ gm
- 0900 - Abatement in process. 2 crew using scissor lift
skyjack (SS7027). Harnesses are being used. Crew
using wet methods and bagging waste as they go _____ gm
- 0930 - Walked site - Abatement on house 72 in process.
Opened house 90 so contractor look at kitchen floor _____ gm
- 2 Air Clean crew in process of prepping house 90.
- 1000 - Inspected prep work of 90. Informed contractor to
poly 2 broken windows on back _____ gm
- 1030 - Walked site - abatement still in process on 72 _____ gm
- 1100 - Walked site - abatement in process on 90. Final
cleanup started on house 72 _____ gm
- 1200 - Final cleanup complete on 72. Final visual
was conducted. Contractor removed signs. All crew
on house 90. _____ gm
- 1230 - Informed contractor to pick up tar paper debris.
- 1330 - Contractor doing final cleanup of 90. All bags
placed in dumpster. Will finish highest area of
house 90 when lift equipment gets to site _____ gm
- 1400 - Collected pumps contractor left site _____ gm



Date: 12-21-01

**DAILY FIELD
REPORT
SUMMARY**

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

PROJECT NAME: FCSS Lagoon A
PROJECT NUMBER: 00310.003.
LOCATION: Manville, NJ
DATE: 12-21-01

Contractor Air Clean Total # Workers: 9
Contractor _____ Shift Day time
CEMI Industrial Judy Myak

WORK AREA: 72 (Basement), 78 (Exterior), 104 (Exterior)

PHASE: ☒ Preparation ☒ Removal ☒ Final Cleaning ☒ Clearance

A. Today's Work:

Remove floor tile in Basement of 72 gm
Remove exterior siding on 78 gm
Remove exterior siding on 104 gm

B. Air Monitoring/Analysis: 1 Lot Blank 1 Field Blank gm
1 Personal on Juan Aguirre (021-43-5463) gm
2 Ambient - 1 on north fence line behind 98/104 and 1 south median
front of 84 gm
3 Clearance from basement of 72 gm

Date: 12-21-01

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s):

8:30 Visual of Bunt. ~~to~~. Everything ok.
72 gm.

D. Non-Conformances:

N/A

E. Corrective Actions (For each item above):

N/A

F. General Comments:

N/A

Copies To:

Signature:

[Signature]

Title

Industrial Hygienist

Date: 12-21-01

**DAILY FIELD
REPORT
SUMMARY**

- 0700 - Arrive on site, have Air Clean sign in. Conducted Safety meeting (topic - PPE) ——— Jm
- 0730 - Waste hauler arrives on site. Removes full dumpster and leaves empty dumpster. He will return by 12:30 to pick up "new" dumpster today. ——— Jm
- 0800 - Air Clean crew working on lining dumpster. Set up exterior of 78. Also set up basement of 66 ——— Jm
- Set up 2 AMB pumps and 1 personal pump ——— Jm
- ~~0800~~ Checked set up of basement in 66, gave contractor ok to remove floor tile. Also checked set up on exterior of 78, gave contractor ok to start Abatement — Jm
- 0830 - Conducted visual on basement of 72 ~~78~~ ok to start clearance samples. ——— Jm
- 0900 - Conducted initial inspection of 104. gave contractor ok to start Abatement. Exterior of 78 - all siding off and bagged. Contractor in process of doing final cleaning — Jm
- 1000 ~~0900~~. Started final clearance on basement of 72 ~~78~~ where doing work on house 104. ——— Jm
- 1030 - Walked site. Abatement in process on 104. ——— Jm
- 11:00 - Walked site. Abatement in process on 104 ——— Jm
- 11:45 - Conducted final visual on 104. Told contractor to move (tear down) barrier tape. ——— Jm
- 1200 - Conducted final visual on House 78. Told contractor to tear down barrier tape ——— Jm
- 1215 - Collected pumps and samples ——— Jm
- 1230 - Waste hauler on site to remove dumpster ——— Jm
- 1300 - Asbestos crew off site ——— Jm
- Eric Lynch and I walked site, locked house doors and gates ——— Jm
- Jm

Date: 01/02/02

**DAILY FIELD
REPORT
SUMMARY**

**CAPE
ENVIRONMENTAL
MANAGEMENT
I N C**

PROJECT NAME: Federal Creosote Superfund Site
PROJECT NUMBER: 00310.003.000
LOCATION: Lagoon A
DATE: 01/02/02

Contractor Air Clean Total # Workers: 9
Contractor Super. Truman Castro Shift Day
CEMI Industrial Eric R. Lynch

WORK AREA: 90 & 110 Valerie Drive - Exteriors
PHASE: ☒ Preparation ☒ Removal ☒ Final Cleaning ☐ Clearance

A. Today's Work: Air Clean will remove final section (dormer) of 90 Valerie Drive exterior siding & will commence and complete removal of 110 Valerie Drive exterior siding. ERL.

B. Air Monitoring/Analysis: Eight samples collected. (2 blanks, 4 ambients, 2 personal). ERL.

Date: 01/02/02

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s): 90 & 110 Valerie Drive were
visually inspected (post-abatement of exterior) and
found to be satisfactory. ERL.

D. Non-Conformances: N/A. ERL.

E. Corrective Actions (For each item
above):

N/A. ERL

F. General
Comments:

N/A. ERL

Copies To: _____

Signature: _____

Title _____

Eric Y. J.
SSH0

Date: 01/02/02

**DAILY FIELD
REPORT
SUMMARY**

0700 Air Clean on-site. EPL

0715 Receive safety briefing (topic - cold weather hazards). EPL

0730 Crew sets up 16 Valerie Drive for exterior transite removal. EPL

0800 Partial crew sets up 90 Valerie Drive to complete removal of
dormer siding. EPL.

0810 All samples set up. Removal of siding at 90 Valerie commences. EPL

0825 Removal at 90 Valerie exterior complete. Visual inspection
is satisfactory. EPL.

0840 Removal at 110 Valerie Drive exterior commences. EPL.

1000 Work proceeds on 110 Valerie Drive exterior. EPL.

1030 110 Valerie Drive exterior ~ 50% complete. EPL.

1145 Removal at 110 Valerie Drive exterior is 90% complete. EPL

1215 Visual inspection of 110 Valerie Drive exterior passes. EPL.
2nd Floor north side of 110 Valerie Drive was an addition
to the original structure of the house and was not
insulated with asbestos siding. EPL.

1225 Samples off. Crew cleans up work area. EPL.

1245 Area secured; crew off-site. EPL.

Date: 01/03/02

**DAILY FIELD
REPORT
SUMMARY**

CAPE

**ENVIRONMENTAL
MANAGEMENT**

I N C

PROJECT NAME: Federal Creosote Superfund Site

PROJECT NUMBER: 00310.003.000

LOCATION: Lagoon A

DATE: 01/03/02

Contractor Air Clean

Total # Workers: 9

Contractor Super. Truman Castro

Shift Day

CEMI Industrial Eric R. Lynch

WORK
AREA:

78, 98 & 110 Valerie Drive.

PHASE:

☒ Preparation

☒ Removal

☒ Final Cleaning

☒ Clearance

A. Today's Work: Flooring removal in 98 & 110 will be completed. ERL
Flooring removal in 78 will continue through 01/04/02. ERL

B. Air Monitoring/Analysis:

ERL TEN
~~Five~~ Twelve samples collected
(2 blanks, 2 personal & 8G clearance). ERL

Date: 01/03/02

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s): Visual inspections for 78
Valerie Drive - Kitchen, 98 Valerie Drive - Kitchen &
110 Valerie Drive - 2nd Level SW side passed. ERL
Clearance sampling was performed for 98 Valerie Drive - Kitchen,
& 110 Valerie Drive - 2nd Level SW side with results pending. ERL

D. Non-Conformances: N/A. ERL

E. Corrective Actions (For each item above):

N/A. ERL

F. General Comments:

N/A. ERL

Copies To: _____

Signature: _____

Title _____

Eric [Signature]
S. HOU

Date: 01/03/02

**DAILY FIELD
REPORT
SUMMARY**

0700 Air Clean & CAPE on-site. EPL
0715 Conduct toolbox safety meeting (topic - Asbestos Containment Hazards). EPL
0730 Air Clean begin work by prepping 10 Valerie Drive - 2nd Level
Sw side for floor tile removal. EPL.
0745 Crew also preps 78 Valerie Drive interior. EPL
0810 Personal samples on. EPL.
0900 Removal starts in 78 Valerie Drive - Kitchen. EPL.
0910 Removal starts in 110 Valerie Drive - 2nd Level Sw side. EPL.
1000 Removal in 78 & 110 Valerie Drive continues. EPL.
1105 Removal concludes in 110 Valerie Drive. EPL.
1115 Visual inspection passes for 110 Valerie Drive. EPL.
1125 Removal concludes in 78 Valerie Drive - Kitchen. Inspection
passes. EPL
1130 Crew begins prep of 78 Valerie Drive - Basement. EPL.
1145 Two workers prep 98 Valerie Drive - Kitchen. EPL.
1200 Removal commences in 78 Valerie Drive - Basement & 98
Valerie Drive - Kitchen. EPL.
1300 Removal concludes in 98 Valerie Drive - Kitchen. EPL.
1310 Visual inspection passes for 98 Valerie Drive - Kitchen. EPL
1330 Crew off-site. 78 Valerie Drive secured. Approximately
75% complete for basement removal. EPL.
1340 Begin clearance testing of 10 Valerie Drive - 2nd Level. EPL.
1400 Begin clearance testing of 98 Valerie Drive - Kitchen. EPL
1555 Stop clearance samples for 110 Valerie Drive. EPL.
1605 Stop clearance samples for 98 Valerie Drive. EPL.
1700 Drop samples for FEDEX delivery. Rush turnaround due
@ 1200 on 01/04/02. EPL.

Date: 01/04/02

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

DAILY FIELD
REPORT
SUMMARY

PROJECT NAME: Federal Creosote

PROJECT NUMBER: 00810.003.000

LOCATION: _____

DATE: _____

Contractor Air Clean
Contractor Super. Truman Castro
CEMI Industrial Eric R. Lynch

Total # Workers: 9
Shift Day

WORK AREA: 78, 84 & 90 Valerie Drive

PHASE: ☒ Preparation ☒ Removal ☒ Final Cleaning ☒ Clearance

A. Today's Work: Asbestos abatement for 78 Valerie Drive - basement & 2nd Level South side, 84 Valerie Drive - Kitchen & 90 Valerie Drive - Kitchen. Abatement completed for all of the aforementioned area. Visual inspection passed and clearance testing was conducted. EEL

B. Air Monitoring/Analysis: 13 samples collected (2 blanks, 2 personals, 9 clearance) EEL

Date: 01/04/02

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s): Inspection performed for
78 Valerie Drive - Basement & 2nd Level, 84
Valerie Drive - Kitchen & 90 Valerie Drive -
Kitchen, ERL

D. Non-Conformances: N/A - ERL

E. Corrective Actions (For each item
above):

N/A - ERL

F. General
Comments:

N/A - ERL

Copies To:

Signature:

Title

SSHO

Date: 01/04/02

**DAILY FIELD
REPORT
SUMMARY**

- 0700 Crew on-site. ERL.
- 0715 Receive safety briefing (topic - Hand Protection). ERL.
- 0730 Work commences for 78 Valerie Drive - basement & 2nd Level south side, 84 Valerie Drive - Kitchen & 90 Valerie Drive - Kitchen. ERL.
- 0835 Removal concludes for 78 Valerie Drive - 2nd Level South side. Inspection passes. ERL.
- 0850 Commence clearance testing for 78 Valerie Drive - 2nd Level south side. ERL.
- 0945 Removal of 84 Valerie Drive - Kitchen concludes. Inspection passes. ERL.
- 0955 Begin clearance sampling at 84 Valerie Drive - Kitchen. ERL.
- 1005 Removal at 78 Valerie Drive - Basement concludes. Inspection passes. ERL.
- 1015 Commence clearance sampling in 78 Valerie Drive - Basement. ERL.
- 1050 Conclude clearance testing - 78 Valerie Drive (2nd Level). ERL.
- 1130 Removal at 90 Valerie Drive - Kitchen concludes. ERL.
- Visual inspection yields question of sheet floor backing that could not be removed without demo of subfloor. ERL.
- Subfloor could not be removed due to safety concerns. ERL.
- Sheet floor cross section analysis yields three layers, two of which (top & middle) appears to be fibrous. Bottom layer appears to be different. Bulk sample of this material (bottom layer) will be sent to 2ATL for analysis. ERL.
- 1155 Conclude clearance testing for 84 Valerie Drive. ERL.
- 1215 Conclude clearance testing for 78 Valerie Drive - Basement. ERL.
- 1300 Secure area. Crew off-site. ERL.
- 1345 Complete paperwork. Prep FedEx package. ERL.
- 1430 ERL off-site. ERL.

Date: 1/4/02

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

DAILY FIELD
REPORT
SUMMARY
(As bestor)

PROJECT NAME: FCSS

PROJECT NUMBER: _____

LOCATION: Marville N.J.

DATE: 1/4/02

Contractor CAPE / Air Clean (Sub) Total # Workers: 9
Contractor _____ Shift DAY
CEMI Industrial Mike Mount, C.J.H.

WORK AREA: Lagoon "A"

PHASE: 0 Preparation 0 Removal 0 Final Cleaning 0 Clearance

A. Today's Work: I inspected the exterior of all houses that had asbestos siding removed. Workers were ~~with~~ ~~removing~~ asbestos siding materials from the contractor (Mr. Clean) had completed work in all houses.

B. Air Monitoring/Analysis: Eric is performing final clearances in the houses.

Date: 1/4/02

**DAILY FIELD
REPORT
SUMMARY**

C. Inspection(s)/Clearance(s): NA

D. Non-Conformances: NA NA (non observed)

E. Corrective Actions (For each item above): NA

F. General Comments: Asbestos Work was progressing smoothly and near completion

Copies To: _____

Signature: Michael D. Hart
Title Project CH

Date: 1/4/01

**DAILY FIELD
REPORT
SUMMARY**

NA

APPENDIX B

Laboratory Analytical Reports for Air Samples

Air Sampling Summary

Date House #	Interior/ Exterior	Type of ACM and Quantity	Project Sample Results (f/cc)	Final Sample Results (f/cc)	Name/TWA Results (f/cc)	Comments
12/19/01 110	Exterior	NA	NA	NA	Mueller <0.14	Removing vinyl siding TEM = <0.0075
12/19/01 66	Exterior	954 SF cement board siding	<0.0092	NA	Portillo <0.0095	
12/20/01 72,90,78	Exterior	3,994SF cement board siding	<0.0041-<0.0084	NA	Portillo <0.0030 Debois 0.0074	
12/21/01 66	Interior	150 SF vinyl sheeting	NA	<0.0020	NA	
12/21/01 78, 104	Exterior	954 cement board siding	<0.0042	NA	Aguirre <0.0043	
01/02/01 90, 110	Exterior	1,610SF cement board siding	<0.0040	NA	Rodriguez 0.016 Debois <0.0039	
01/03/02 98	Interior	350 SF flooring	NA	<0.00019	Rodriguez VOID	
01/03/02 110	Interior	800 SF flooring	NA	NA	Portillo VOID	
01/04/02 78	Interior 2 nd level	165 SF flooring	NA	0.0035 -0.010	Rodriguez 0.043	This area was retested after contractor recleaned area. See 01/07/02
01/04/02 84	Interior	150 SF flooring	NA	<0.0021		
01/04/02 78	Interior basement	710 SF flooring	NA	<0.0021		
01/07/02 78	Interior kitchen	150 SF flooring	NA	<0.0016	NA	
01/07/02 90	Interior kitchen	120 SF flooring	NA	<0.0013	NA	
01/07/02 78	Interior 2 nd level	165 SF flooring	NA	<0.0020	NA	

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 12/31/2001
Date Received: 12-24-01
Project: FCSS Lagoon A, 66 & 110 Valerie Dr.
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1405142	12-19-01A	Lot Blank	0 L	1.27	N/A
1405143	12-19-02A	Field Blank	0 L	1.27	N/A
1405144	12-19-03A	Rick Mueller 128-60-3358	496 L	182.00	0.1400
1405145	12-19-04A	Maria Portillo 157-72-9250	284 L	2.55	<0.0095
1405146	12-19-05A	66 Valerie Drive South Perimeter	297 L	2.55	<0.0091
1405147	12-19-06A	66 Valerie Drive North Perimeter	292 L	2.55	<0.0092

Member AIHA Analysts Registry

AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

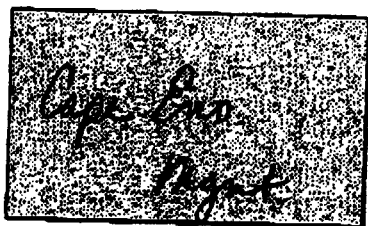
Analysis Performed By: 

Approved By: 

Date: DEC 27 2001 Benjamin Reich, AIHA-AAR 4879

Frank E. Ehrenfeld, III
Laboratory Director

Preliminary Results



PROJECT:

FLSS Lagoon A

Project No.:

003/0.003.000

Consultant Contact:

Eric Lynd

Tel:

FAX: 908-704-2494

LABORATORY: International Asbestos Testing Laboratory

Lab Contact: Frank Ehrensfield III
(856) 231-9449

Analysis: Transmission Electron Microscopy
Method: NIOSH 7402

Turn Around Time: 48h

Samples Delivered:	Date:	Time:
Samples Received: <i>CS</i>	Date: <i>1/7</i>	Time:
Sample Analysis: <i>CS</i>	Date: <i>1/7</i>	Time:
QA/QC Review:	Date:	Time:
Preliminary Results Released: <i>CO</i>	Date: <i>1/7</i>	Time: <i>1300</i>

Summary Data

[illegible]

- 1) f/mm^2 = Total Asbestos Fibers Detected in relation to the area analyzed
- 2) f/cc = Total Asbestos Fibers Detected of all sizes as a function of the volume of air sampled
- 3) f/cc = Asbestos Fibers Detected that are $> 5.0\mu\text{m}$ in length as a function of the volume of air sampled

These preliminary results are issued by IATL to expedite procedures by clients based upon the above data. IATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results.

343/6 1/4/200:

JAN. 7. 2002 1:11PM

IATL

NO. 907

P. 3

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

Client Name: USACE Project Manager: K. GATES
Proj. Name / Number: FCSS LAGOON A 1 00310, 003,000
Date collected: 12-19-01 Shift: 1ST
Work area: LAGOON "A" 66 + 110 VALERIE DRIVE

SAMPLE ID	DESCRIPTION / LOCATION / SSA	FLOW (L/min)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (fibers/m ³)	AVG BLANK (fibers/m ³)	DETECTION LIMIT (fibers)	MEASURED CONCENTRATION (fibers)
		PUMP	POST	PRE	ON							
12-19-01A	LOT BLANK							1	1.27			
12-19-02A	FIELD BLANK							1	1.27			
12-19-03A	RICK MUELLER			2.68	0925	185	495.8	143	182			0.14
12-19-04A	MARIA PORTILLO	LV		2.68	1230	106	284.08	2	255			<0.0095
12-19-05A	66 Valerie Dr.			2.68	1226	111	297.48	2	255			<0.0091
12-19-06A	South Perimeter	LV		2.68	1415	109	292.12	2	255			<0.0092
12-19-07A	North Perimeter	LV		2.68	1417							
<div style="display: flex; justify-content: space-between;"> <div> <p>COLLECTION:</p> <p>COLLECTED BY: <u>gsm</u></p> <p>ROTOMETER NO. <u>#</u></p> <p>FILTER LOT NO. <u>00-074-914</u></p> <p>CASSETTES: <u>(0.8) 0.45 MCF</u></p> </div> <div> <p>ANALYSIS:</p> <p>ANALYZED BY: <u>[Signature]</u></p> <p>DATE ANALYZED: <u>12/27/01</u></p> <p>MICROSCOPE #:</p> </div> <div> <p>TURNAROUND TIME REQUESTED: <u>48 HR.</u></p> <p>RELINQUISHED BY: <u>[Signature]</u></p> <p>DATE: <u>12/21/01</u> TIME: <u>1450</u></p> <p>RELINQUISHED BY:</p> <p>DATE: TIME:</p> </div> <div> <p>RECEIVED BY: <u>[Signature]</u></p> <p>DATE: <u>1/2/2002</u> TIME:</p> <p>RECEIVED BY:</p> <p>DATE: TIME:</p> </div> </div>												

Tem/ DVE: 1/7/200

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

SAMPLE TYPE LEGEND:

SO BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA

EX EQUIPMENT
CL CLEARANCE

DEC 24 2001

12/24
1010

For results to (908) 704-2194.

12/25/01

Cape Environmental

Dec 18 01 11:39a

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 12/31/2001
Date Received: 12-24-01
Project: FCSS Lagoon A, 12-20-01
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1405148	122001-01	Lot Blank	0 L	1.27	N/A
1405149	122001-02	Field Blank	0 L	1.27	N/A
1405150	122001-03	Maria Portillo 156-80-8518	898 L	2.55	<0.0030
1405151	122001-04	Robert Debois 135-58-3940	892 L	17.20	0.0074
1405152	122001-05	North Of House 72	651 L	2.55	<0.0041
1405153	122001-06	South West Of House 72	649 L	2.55	<0.0042
1405154	122001-07	East Of House 72	632 L	2.55	<0.0043

Member AIHA Analysts Registry


AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

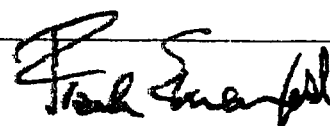
Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By:



Benjamin Reich, AIHA-AAR 4879

Approved By:



Frank E. Elencoff, III
Laboratory Director

Date:

DEC 31 2001

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 12/31/2001
Date Received: 12-24-01
Project: FCSS Lagoon A, 12-20-01
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1405155	122001-08	North Fence Line Behind 90	322 L	2.55	<0.0084
1405156	122001-09	South Fence Line In Front Of 90	319 L	2.55	<0.0084

Member AIHA Analysts Registry

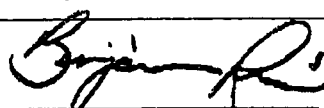
AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

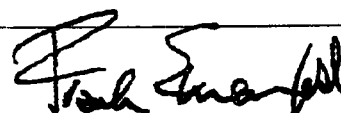
Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By:

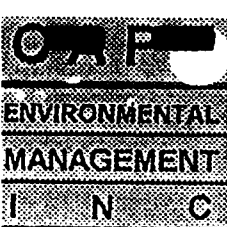


Benjamin Reich, AIHA-AAR 4879

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

Client Name: USACEProject Manager: Kurt Gates

AIR SAMPLE LOG

Proj. Name / Number: 00310: 003.0001Date collected: 12-20-01Shift: Work area: FCSS lagoon ACHAIN OF CUSTODY
SUMMARY REPORT

SAMPLE ID		DESCRIPTION / LOCATION / SS#	FLOW (L/m)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (l/mm2)	FIBER DENSITY (l/mm2)	DETECTION LIMIT (l/cc)	MEASURED CONCENTR (l/cc)
LAB SAMPLE #	TYPE		PRE	ON	TOTAL								
		PUMP	POST	OFF	(min)								
122001-01		Lot	-	-									
1405148	LB	Field Blank	-	-					1/100	1.27			
122001-02		Field Blank	-	-					1/100	1.27			
1405149	FB		-	-									
122001-03		Maria Portillo	2.68	0810					2/100	2.55			
1405150	PER	156-80-8518	2.68	1345	335	897.8							<0.0030
122001-04		Robert Debus	2.68	0812					135/100	172			0.0074
1405151	PER	135-58-3940	2.68	1345	333	892.4							
122001-05		North of Rec'd w/	2.68	0807		651.2			2/100	2.55			<0.0041
1405152	AMB	House 72 Lid off	2.68	1210	243								
122001-06		South west	2.68	0808	242	648.6			2/100	2.55			<0.0042
1405153	AMB	of House 72	2.68	1210									
122001-07		East of	2.68	0814		632.48			2/100	2.55			<0.0043
1405154	AMB	House 72	2.68	1210	236								
122001-08		North fence	2.68	1215		321.6			2/100	2.55			<0.0084
1405155	AMB	line behind 90	2.68	1215	120								
COLLECTION:		ANALYSIS:		TURNAROUND TIME REQUESTED: <u>48 hr.</u>									
COLLECTED BY: <u>gpm</u>		ANALYZED BY: <u>[Signature]</u>		RELINQUISHED BY: <u>EC</u>									
POTOMETER NO: <u>#1</u>		DATE ANALYZED: <u>12/27/01</u>		RECEIVED BY: <u>4</u>									
FILTER LOT NO: <u>00-074-914</u>		MICROSCOPE #:		DATE: <u>12/21/01</u> TIME: <u>1400</u>									
ASSETTES: <u>(0.8) 0.45 MCEF</u>				DATE: <u>DEC</u> TIME: <u> </u>									

SAMPLE TYPE LEGEND:

BACKGROUND
FIELD BLANK
PERSONALAMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREAEX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

LCS 12/24/01

M@ 1/8/02

Fax results to (908) 704-2194.

Project Manager: Kurt Gates

Proj. Name / Number: 00310. 003. 0001

Date collected: 12-20-01

Shift:

Work area: FCSS lagoon A

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

[illegible]

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL

AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA

EX	EXCURSION
CL	CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 12/31/2001
Date Received: 12-24-01
Project: FCSS Lagoon A, 12-21-01
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1405157	122101-01	Lot Blank	0 L	1.27	N/A
1405158	122101-02	Field Blank	0 L	1.27	N/A
1405159	122101-03	Juan P. Aguirre 021-43-5463	630 L	5.73	<0.0043
1405160	122101-04	North Fence Line Behind 98/104	646 L	2.55	<0.0042
1405161	122101-05	South Median In Front Of 84	657 L	2.55	<0.0041
1405162	122101-06	Basement Closet Of 66	1329 L	2.55	<0.0020
1405163	122101-07	Basement Closet Of 66	1329 L	2.55	<0.0020

Member AIHA Analysts Registry

AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By: 

Benjamin Reich, AIHA-AAR 4879

Approved By: 

Frank E. Ehrenfeld, III
Laboratory Director

Date: DEC 26 2001

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 12/31/2001
Date Received: 12-24-01
Project: FCSS Lagoon A, 12-21-01
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1405164	122101-08	Basement Closet Of 66	1329 L	2.55	<0.0020

Member AIHA Analysts Registry

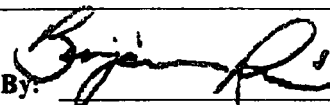
AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

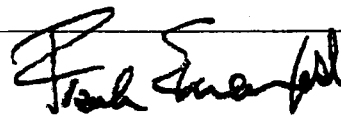
Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By:

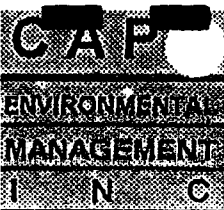


Benjamin Reich, AIHA-AAR 4879

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director



Client Name: USACE Project Manager: Art Gates
Proj. Name / Number: FCSS 00310.003.004
Date collected: 12-21-01 Shift:
Work area: FCSS lagoon A

AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m)	TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (l/mm2)	FIBER DENSITY (l/mm2)	DETECTION LIMIT (l/cc)	MEASURED CONCENTR (l/cc)
LAB SAMPLE #	TYPE			PRE	ON	TOTAL (min)							
122101-01		Lot Blank		—	—	/	/		100	1.27	/	/	/
1405157			—	—	—								
122101-02		Field Blank		—	—	/	/		100	1.27	/	/	/
1405158			—	—	—								
122101-03		021-43-5463		2.68	8:20	235	629.8		45/100	5.73	5.73		<0.0043
1405159	PER	Juan P. Aguirre	LV	2.68	1215								
122101-04		North fence line Behind 98/104		2.68	8:19	241	645.9		2/100		2.55		<0.0042
1405160	AMB		LV	2.68	1220								
122101-05		South median in front of 84		2.68	8:17	245	650.6		2/100		2.55		<0.0041
1405161	AMB		LV	2.68	1222								
122101-06		Basement closet of 66		10.55	1006	126	1329.3		2/100		2.55		<0.0020
1405162	CL		HV	10.55	1212								
122101-07		Basement closet of 66		10.55	1006	126	1329.3		2/100		2.55		<0.0020
1405163	CL		HV	10.55	1212								
122101-08		Basement closet of 66		10.55	1006	126	1329.3		2/100		2.55		<0.0020
1405164	CL		HV	10.55	1212								

COLLECTION:
COLLECTED BY: Jan
ANALYZED BY: [Signature]
POTOMETER NO: #1
DATE ANALYZED: 12/21/01
FILTER LOT NO: 001074/914
MICROSCOPE #:
CASSETTES: 0.48 MCFP

TURNAROUND TIME REQUESTED: 48 Hr.
RELINQUISHED BY: [Signature] **RECEIVED BY:**
DATE: 12/24/01 **TIME:** 1400 **DATE:** **TIME:**
RELINQUISHED BY: **RECEIVED BY:**
DATE: **TIME:** **DATE:** **TIME:**

SAMPLE TYPE LEGEND:

B BACKGROUND
S FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

11/8/02

12/24/01

Fax results to [Signature] (908) 704-2194.

Client Name: USACE Project Manager: K.G.
Proj. Name / Number: Federal/Concrete / 100310.003.000
Date collected: 01/02/02 Shift: Day
Work area: Lagoon A

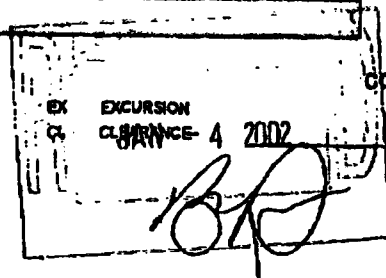
AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

SAMPLE ID	TYPE	DESCRIPTION / LOCATION / SS#	FLOW (L/min)		TIME TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (1/min ²)	FIBER DENSITY (1/min ²)	DETECTION LIMIT (1/cc)	MEASURED CONCENTR (Ucc)
			PRE PUMP	ON POST								
10202-01	FB	Field Blank	/	/	/	/	1/100		/	1.27	/	/
02	LB	Lot Blank	/	/	/	/	1/100		/	1.27	/	/
03	AMB	North fence line, rear of 104 Valerie Dr.	2.68	0808	257	688.8	2/100			2.55		<0.0039
04	AMB	East fence line, 110 Valerie Dr.	2.68	0809	255	683.4	2/100			2.55		<0.0039
05	AMB	South fence line, front of 104 Valerie Dr.	2.68	0810	253	678.0	2/100			2.55		<0.0040
06	AMB	West side of 110 Valerie Dr.	2.68	0811	255	683.4	2/100			2.55		<0.0039
07	P	Angelina Rodriguez, 098-48-8479, Half-face, debris clean-up.	2.68	0805	256	686.1	22/100			28.0		0.016
08	P	Robert Debois, 135-58-3940, Half-face, transite siding removal.	2.68	0804	255	683.4	2/100			2.55		<0.0039

COLLECTION: Eric R. Lynch ANALYSIS: [Signature]
REGISTERED BY: Eric R. Lynch ANALYZED BY: [Signature]
METER NO: CAPE #1 DATE ANALYZED: 1/2/02
AIR LOT NO: 00-074-914 MICROSCOPE #: [Blank]
LETTERS: 0.0 0.45 MCEF

TURNAROUND TIME REQUESTED: 48 HR TA
RELINQUISHED BY: Eric R. Lynch RECEIVED BY: [Signature]
DATE: 01/02/02 TIME: 1400 DATE: [Blank] TIME: [Blank]
RELINQUISHED BY: [Blank] RECEIVED BY: [Blank]
DATE: [Blank] TIME: [Blank] DATE: [Blank] TIME: [Blank]

SAMPLE TYPE LEGEND:
BACKGROUND
ELD BLANK
PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA



COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Fax results to (908) 704-2194.

Proj. Name / Number: Federal Crestate Superfund / 00810.003.000Date collected: 01/11/02Shift: DayWork area: Lagoon ACHAIN OF CUSTODY
SUMMARY REPORT

SAMPLE ID	TYPE	DESCRIPTION / LOCATION / SS#	FLOW (L/min)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (1/min/2)	FIBER DENSITY (1/min/2)	DETECTION LIMIT (Ucc)	MEASURED CONCENTRATION (Ucc)
			PRE	ON	OFF	TOTAL (min)							
01102-01	FB	Field Blank.	/	/	/	/	/	/	100	/	127	/	/
01102-02	LB	Lot Blank.	/	/	/	/	/	/	100	/	127	/	/
01102-03	P	Douglas Guttery, 332-54-070, excavator operator.	2.68	0919	1552	393	1053.2	100	136	/	136	/	0.048
01102-04	P	Chasey Simula, 332-58-3053, dust control.	2.68	0924	1554	390	1045.2	100	255	/	255	/	<0.0026

COLLECTION:		ANALYSIS:	
COLLECTED BY: <u>Eric L. York</u>	ANALYZED BY: <u>[Signature]</u>		
BIOTOMETER NO: <u>CAPE #</u>	DATE ANALYZED: <u>01/15/02</u>		
FILTER LOT NO: <u>00-074-914</u>	MICROSCOPE #:		
CASSETTES: <u>(0.8) 0.45 MCEF</u>			

TURNAROUND TIME REQUESTED: <u>24hr.</u>	
RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01/11/02</u> TIME: <u>1730</u>	DATE: <u>01/14/02</u> TIME: <u>1730</u>
RELINQUISHED BY:	RECEIVED BY:
DATE: <u>01/14/02</u> TIME: <u>1730</u>	DATE: <u>01/14/02</u> TIME: <u>1730</u>

SAMPLE TYPE LEGEND:

BACKGROUND	AMB AMBIENT	EX EXCURSION
FIELD BLANK	IMA INSIDE WORK AREA	CL CLEARANCE
PERSONAL	OWA OUTSIDE WORK AREA	

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Client Name: USACE Project Manager: Kurt Gates
Proj. Name / Number: Federal Credit Superfund / 0030.003.000
Date collected: 01/03/02 Shift: Day
Work area: 78, 98 & 110 Valerie Drive

AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

RUSH

pg. 1 of 2

SAMPLE ID	DESCRIPTION / LOCATION / SS#	FLOW (L/min)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (U/min/2)	FIBER DENSITY (U/min/2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (U/cc)
		PRE PUMP	ON POST	ON OFF	TOTAL (min)							
10302-01	Field Blank						1/100			1.27		
10302-02	Lot Blank						1/100			1.27		
10302-03	Angelina Rodriguez, Half-Face, Flooring removal	LU	2.68	0801	301	806.7				VOID	overloaded	
10302-04	Maria Portillo, Half-Face, Flooring removal	LU	2.68	0811	303	812.0				VOID	overloaded	
10302-05	110 Valerie Drive - 2nd level SW side	HU	10.55	1340	134	1413.7	5/100			6.37	<0.0019	
10302-06	110 Valerie Drive - 2nd level SW side	HU	10.55	1341	134	1413.7	7/100			2.55		<0.0019
10302-07	110 Valerie Drive - 2nd level SW side	HU	10.55	1342	134	1413.7	2/100			2.55		<0.0019
10302-08	98 Valerie Drive - Kitchen	HU	10.55	1402	123	1297.7	7/100			8.92		0.0026

COLLECTION BY: <u>Erik R. Lynch</u>		ANALYZED BY: <u>[Signature]</u>	
TOMETER NO: <u>CAPE #1</u>		DATE ANALYZED: <u>1/4/02</u>	
TER LOT NO <u>00-074-914</u>		MICROSCOPE #:	
ASSETTES: <u>0.8 0.45 MCEF</u>			

TURNAROUND TIME REQUESTED: <u>RUSH 7/1A</u>	
RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY: <u>[Signature]</u>
DATE: <u>01/03/02</u> TIME: <u>1600</u>	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

SAMPLE TYPE LEGEND:

BACKGROUND
FIELD BLANK
PERSONAL

AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA

EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)
JAN - 4 2002

FAXED
1/4/02

CERTIFICATE OF ANALYSIS

Client:	Cape Environmental Management	Report Date:	01/10/2002
	486 Thomas Jones Way, Ste. 260	Date Received:	01-07-02
	Exton PA 19341-2564	Project:	Federal Creosote Superfund, 1-4-02
		Project No.:	00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1410439	010402-01	Field Blank	0 L	1.27	N/A
1410440	010402-02	Lot Blank	0 L	1.27	N/A
1410441	010402-03	Angelina Rodriguez Half Face Flooring Removal	619 L	68.80	0.0430
1410442	010402-04	Robert Debois Half Face Flooring Removal	616 L	Void	Void
1410443	010402-05	78 Valerie Drive 2nd Level South Side	1266 L	11.50	0.0035
1410444	010402-06	78 Valerie Drive 2nd Level South Side	1266 L	21.70	0.0066
1410445	010402-07	78 Valerie Drive 2nd Level South Side	1266 L	33.10	0.0100

Member AIHA Analysts Registry

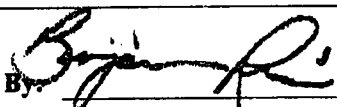
AIHA Lab No. 444

NIOSH-PAT NO. 07008

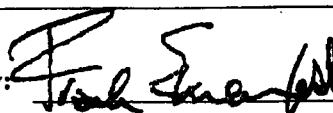
Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By:


Benjamin Reich, AIHA-AAR 4879

Approved By:


Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 01/10/2002
Date Received: 01-07-02
Project: Federal Creosote Superfund, 1-4-02
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1410446	010402-08	84 Valerie Drive Kitchen	1266 L	2.55	<0.0021
1410447	010402-09	84 Valerie Drive Kitchen	1266 L	2.55	<0.0021
1410448	010402-10	84 Valerie Drive Kitchen	1266 L	2.55	<0.0021
1410449	010402-11	78 Valerie Drive Basement	1266 L	2.55	<0.0021
1410450	010402-12	78 Valerie Drive Basement	1266 L	2.55	<0.0021
1410451	010402-13	78 Valerie Drive Basement	1266 L	2.55	<0.0021

Member AIHA Analysts Registry


AIHA Lab No. 444

NIOSH-PAT NO. 07008

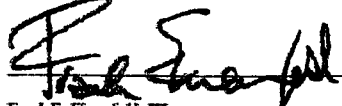
Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

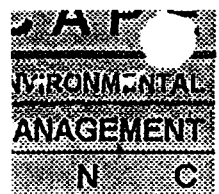
Analysis Performed By:


Benjamin Reich, AIHA-AAR 4879

Approved By:


Frank E. Elmendorf, III
Laboratory Director

Date: JAN 02 2002



Client Name: USACE Project Manager: Kurt Gates AIR SAMPLE LOG
Proj. Name / Number: Federal Creosote Superfund 10030.003.000 CHAIN OF CUSTODY
Date collected: 01/04/02 Shift: Day SUMMARY REPORT
Work area: Lagoon A pg. 1 of 2

SAMPLE ID		DESCRIPTION / LOCATION / SS#	FLOW (L/m)	TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (f/mm2)	FIBER DENSITY (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
LAB SAMPLE #	TYPE			PUMP	PRE POST							
10402-01		Field Blank						1/100		1.21		
1410440	FB											
10402-02		Lot Blank						1/100		1.21		
1410440	LB											
10402-03		Angelina Rodriguez, HTH	2.68	0751				54/100		68.8		0.043
1410441	P	face, flooring removal. LU	2.68	1142	231	619.1						
10402-04		Robert Debois, HTH	2.68	0753				VOID		overloaded		
1410442	P	flooring removal. LU	2.68	1143	230	616.4						
10402-05		78 Valerie Drive - 2nd Level	10.55	0851				9/100		11.5		0.0035
1410443	CL	South side. HU	10.55	1051	120	1266.0						
10402-06		78 Valerie Drive - 2nd Level	10.55	0852				17/100		21.7		0.0066
1410444	CL	South side. HU	10.55	1052	120	1266.0						
10402-07		78 Valerie Drive - 2nd Level	10.55	0853				26/100		33.1		0.010
1410445	CL	South side. HU	10.55	1053	120	1266.0						
10402-08		84 Valerie Drive - Kitchen	10.55	0855				2/100		2.55		<0.0021
1410446	CL		10.55	1155	120	1266.0						
COLLECTION:		ANALYSIS:		TURNAROUND TIME REQUESTED:		RUSH T/A						
COLLECTED BY: <u>Erick Lynch</u>		ANALYZED BY:		RELINQUISHED BY: <u>Erick Lynch</u>		RECEIVED BY: <u>[Signature]</u>						
TOMETER NO: <u>CAPE #1</u>		DATE ANALYZED:		DATE: <u>01/04/02</u> TIME: <u>1600</u>		DATE: TIME:						
TER LOT NO: <u>00-074-914</u>		MICROSCOPE #:		RELINQUISHED BY:		RECEIVED BY:						
SSETTES: <u>0.8</u> 0.45 MCEF				DATE: TIME:		DATE: TIME:						

SAMPLE TYPE LEGEND:

BACKGROUND
FIELD BLANK
PERSONAL

AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA

EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

JAN - 7 2002

1/7/02

1/11/02

Client Name: USACE Project Manager: Leif Gates
 Proj. Name / Number: Federal Cressates Superfund / 00310.005.000
 Date collected: 01/04/02 Shift: Day
 Work area: Lagoon A

AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

pg. 2 of 2

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (f/mm2)	FIBER DENSITY (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
LAB SAMPLE #	TYPE			PRE	ON	TOTAL (min)								
				POST	OFF									
010402-09		84 Valerie Drive - Kitchen		10.55	0955	120	1266.0		2		2.55			
1410447	CL		HV	10.55	1155									<0.0021
010402-10		84 Valerie Drive - Kitchen		10.55	0955	120	1266.0		2		2.55			
1410448	CL		HV	10.55	1155									<0.0021
010402-11		78 Valerie Drive - Basement		10.55	1045	120	1266.0		2		2.55			
1410449	CL		HV	10.55	1215									<0.0021
010402-12		78 Valerie Drive - Basement		10.55	1045	120	1266.0		2		2.55			
1410450	CL		HV	10.55	1215									<0.0021
010402-13		78 Valerie Drive - Basement		10.55	1045	120	1266.0		2		2.55			
1410451	CL		HV	10.55	1215									<0.0021

COLLECTION:		ANALYSIS:	
COLLECTED BY: <u>Erick Lynch</u>	ANALYZED BY:		
MOTOMETER NO: <u>CAP #1</u>	DATE ANALYZED:		
FILTER LOT NO: <u>00-074-914</u>	MICROSCOPE #:		
ASSETTES: <u>(0.8) 0.45 MCEF</u>			

TURNAROUND TIME REQUESTED: <u>RUSH T/A</u>	
RELINQUISHED BY: <u>Erick Lynch</u>	RECEIVED BY:
DATE: <u>01/04/02</u> TIME: <u>1600</u>	DATE: TIME:
RELINQUISHED BY:	RECEIVED BY:
DATE: TIME:	DATE: TIME:

SAMPLE TYPE LEGEND:

BACKGROUND	AMB AMBIENT	EX EXCURSION
FIELD BLANK	IWA INSIDE WORK AREA	CL CLEARANCE
PERSONAL	OWA OUTSIDE WORK AREA	

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 01/10/2002
Date Received: 01-08-02
Project: Federal Creosote Superfund, 1-7-02
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1411022	010702-01	Field Blank	0 L	1.27	N/A
1411023	010702-02	Lot Blank	0 L	1.27	N/A
1411024	010702-03	78 Valerie Drive Kitchen	1656 L	2.55	<0.0016
1411025	010702-04	78 Valerie Drive Kitchen	1656 L	2.55	<0.0016
1411026	010702-05	78 Valerie Drive Kitchen	1656 L	2.55	<0.0016
1411027	010702-06	90 Valerie Drive Kitchen	2015 L	2.55	<0.0013
1411028	010702-07	90 Valerie Drive Kitchen	2015 L	2.55	<0.0013

Member AIHA Analysts Registry

AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

Analysis Performed By:

Benjamin Reich, AIHA-AAR 4879

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 01/10/2002
Date Received: 01-08-02
Project: Federal Creosote Superfund, 1-7-02
Project No.: 00310.003.000

PCM AIR SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client #</u>	<u>Description / Location</u>	<u>Volume</u>	<u>Density Fibers/mm²</u>	<u>Concentration Fibers/cc</u>
1411029	010702-08	90 Valerie Drive Kitchen	2015 L	2.55	<0.0013
1411030	010702-09	78 Valerie Drive 2nd Level	1329 L	2.55	<0.0020
1411031	010702-10	78 Valerie Drive 2nd Level	1329 L	2.55	<0.0020
1411032	010702-11	78 Valerie Drive 2nd Level	1329 L	2.55	<0.0020

Member AIHA Analysts Registry

AIHA Lab No. 444

NIOSH-PAT NO. 07008

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm².

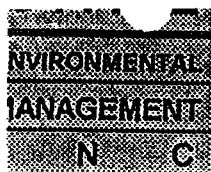
Analysis Performed By: 

Benjamin Reich, AIHA-AAR 4879

Approved By: 

Frank E. Eizenfeld, III
Laboratory Director

Date: JAN 08 2002



Client Name: USACE Project Mana. Furt Gates AIR SAMPLE LOG
Proj. Name / Number: Federal Cressate Superfund / 0030-003-000
Date collected: 01/07/02 Shift: Day
Work area: Lagoon A

CHAIN OF CUSTODY SUMMARY REPORT

1/8/2002

pg. 1 of 2

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (l/mm2)	FIBER DENSITY (l/mm2)	DETECTION LIMIT (l/cc)	MEASURED CONCENTR (l/cc)
LAB SAMPLE #	TYPE			PRE POST	ON OFF	TOTAL (min)								
210702-01														
1411022	FB	Field Blank	-	-	-	-	-	-		10	-	1.27	-	-
210702-02														
1411023	LB	Lot Blank	-	-	-	-	-	-		10	-	1.27	-	-
210702-03		78 Valerie Dr. - Kitchen	HV	10.55	0837	157	16564			2		2.55		<0.0016
210702-04		78 Valerie Dr. - Kitchen	HV	10.55	0838	157	16564			2		2.55		<0.0016
210702-05		78 Valerie Dr. - Kitchen	HV	10.55	0839	157	16564			2		2.55		<0.0016
210702-06		90 Valerie Dr. - Kitchen	HV	10.55	1124	191	2015.1			2		2.55		<0.0013
210702-07		90 Valerie Dr. - Kitchen	HV	10.55	1125	191	2015.1			2		2.55		<0.0013
210702-08		90 Valerie Dr. - Kitchen	HV	10.55	1126	191	2015.1			2		2.55		<0.0013

COLLECTION:		ANALYSIS:		TURNAROUND TIME REQUESTED: <u>RUSH</u>			
COLLECTED BY: <u>Erick R. Lynch</u>		ANALYZED BY:		RELINQUISHED BY: <u>Erick R. Lynch</u>	RECEIVED BY: <u>[Signature]</u>		
TOMETER NO: <u>CAPE #1</u>		DATE ANALYZED:		DATE: <u>01/07/02</u> TIME: <u>1300</u>	DATE: <u>1/8/02</u> TIME: <u>1400</u>		
SER LOT NO: <u>00-074-914</u>		MICROSCOPE #:		RELINQUISHED BY:	RECEIVED BY:		
SETTINGS: <u>0.8 0.45 MCEF</u>				DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:
BACKGROUND AMB AMBIENT
FIELD BLANK IWA INSIDE WORK AREA
PERSONAL OWA OUTSIDE WORK AREA

EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

YNe 1/11/02

Fax Results to (908) 704-2194.

Client Name: ADM

Project Manager: Paul Gates

AIR SAMPLE LOCATION:

Proj. Name / Number: Federal Creasote Superfund 0030.003.000

CHAIN OF CUSTODY SUMMARY REPORT

Date collected: 01/07/02

Shift: Day

Work area: Lagoon A

pg. 2 of 2

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m)		TIME		VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	AVG. BLANK (f/mm2)	FIBER DENSITY (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
AB SAMPLE #	TYPE			PRE	ON	OFF	TOTAL (min)							
0702-09		78 Valerie Drive -		10.55	1444									
1411030	CL	2nd Level	HV	10.55	1650		126	1329.3		2		2.55		<0.0020
0702-10		78 Valerie Drive -		10.55	1445									
1411031	CL	2nd Level	HV	10.55	1651		126	1329.3		2		2.55		<0.0020
0702-11		78 Valerie Drive -		10.55	1446									
1411032	CL	2nd Level	HV	10.55	1652		126	1329.3		2		2.55		<0.0020

COLLECTION:		ANALYSIS:	
COLLECTED BY: <u>Eric Lynch</u>		ANALYZED BY: <u> </u>	
METER NO: <u>CAPE #1</u>		DATE ANALYZED: <u> </u>	
SERIAL LOT NO: <u>00-074-914</u>		MICROSCOPE #: <u> </u>	
REMARKS: <u>0.8 0.45 MCEF</u>			

TURNAROUND TIME REQUESTED: <u>RUSH</u>	
RELINQUISHED BY: <u>E. Lynch</u>	RECEIVED BY: <u> </u>
DATE: <u>01/07/02</u> TIME: <u>1700</u>	DATE: <u> </u> TIME: <u> </u>
RELINQUISHED BY: <u> </u>	RECEIVED BY: <u> </u>
DATE: <u> </u> TIME: <u> </u>	DATE: <u> </u> TIME: <u> </u>

SAMPLE TYPE LEGEND:

BACKGROUND	AMB AMBIENT	EX EXCURSION
FIELD BLANK	IWA INSIDE WORK AREA	CL CLEARANCE
PERSONAL	OWA OUTSIDE WORK AREA	

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Fax results to (908) 704-284.

APPENDIX C

Laboratory Analytical Reports for Bulk Samples

APPENDIX C

Bulk Sample Summary

CAPE'S PLM SAMPLE RESULTS			
Sample Number	Location of Material	Type of Material	Type and % Asbestos
010102-0101	90 Valerie Drive – Kitchen	Backing on sheet flooring	No Asbestos Detected
010102-0102	90 Valerie Drive – Kitchen	Backing on sheet flooring	No Asbestos Detected
010102-0103	90 Valerie Drive – Kitchen	Backing on sheet flooring	No Asbestos Detected

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management

Report Date: 01/07/2002

486 Thomas Jones Way, Ste. 260

Project: Federal Creosote Superfund Site

Exton

PA

19341-2564

Project No.: 00310.003.000

BULK SAMPLE ANALYSIS SUMMARY

Lab No.	1410489	Material Description:	Lt.Green Fibrous	
Client No.:	010402-0101	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	68	Cellulose	2
		30	Synthetic	

Lab No.	1410489	Material Description:	Lt.Green Fibrous	
Client No.:	010402-0101	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100
Dk.Brown Mastic				
From Above				

Lab No.	1410490	Material Description:	Lt.Green Fibrous	
Client No.:	010402-0102	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	68	Cellulose	2
		30	Synthetic	

Lab No.	1410490	Material Description:	Lt.Green Fibrous	
Client No.:	010402-0102	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100
Dk.Brown Mastic				
From Above				

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444***This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: _____

Approved By: _____

Date: _____

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos
Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management

Report Date: 01/07/2002

486 Thomas Jones Way, Ste. 260

Project: Federal Creosote Superfund Site

Exton PA 19341-2564

Project No.: 00310.003.000

BULK SAMPLE ANALYSIS SUMMARY

Lab No.	1410491	Material Description:	Lt.Green Fibrous		
Client No.:	010402-0103	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	68	Cellulose	2	
		30	Synthetic		

Lab No.	1410491	Material Description:	Lt.Green Fibrous		
Client No.:	010402-0103	Location:	Dk.Brown Mastic 90ValerieDr.;Kitchen		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	
Dk.Brown Mastic					
From Above					

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444***This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicator Stratified Point Count Method performed. Method not performed unless requested. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by qualitative TEM.

Analysis Performed By: _____

Approved By: _____

Date: _____

Frank E. Edmunds, III
Laboratory Director

I N C

INSPECTOR(S) Eric R. Lynch

ASBESTOS BULK SAMPLE SURVEY FORM

NO. 912 P. 4

[illegible]

RS ROOF SHINGLE
WP WALL PLASTER
CP CEILING PLASTER

FT FLOOR TILE
G GASKET
SA SPRAY APPLIED

M MASTIC
WB WALL BOARD AND JOINT COMPOUND
TSI THERMAL SYSTEM INSULATION

CT CEILING TILE

DWR-197
7/89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES



DEWATERING SYSTEM PERMIT

Mail to: Water Allocation
CN 029
Trenton, N.J. 08625-0029

Permit No. DSP-0354

FEDERAL CARDIOTE SITE - Lagoon A
Project Name
MANVILLE SONNET
Location (Township, County)
DACW41-D1-D-0001-000101
Project Number WAS 10
USEPA Region II
Owner's Name
216 Rustic Manor
Owner's Address
MANVILLE, NJ 08834

GRIFFIN Dewatering / Cam KLOEWE
Licensed Dewatering Contractor/Well Driller
512 MILLBURN AVENUE, 2ND FLR
Address
SHORT HILLS, NJ 07078
973-921-9200
Dewatering Contractor's Tel. #
CAM KLOEWE 973-921-9800
Contact Person/Telephone #

REASON FOR DEWATERING (sewer const., water treatment facility, etc.) Dewatering for Site Remediation

PROPOSED DEWATERING WELL/ WELL POINT CONSTRUCTION:

Number of Wells 30 Well Points _____
Maximum Depth of Wells 40 ft./ Well Points _____ ft.
Diameter of Casing 10 in./ Well Points _____ in.
Combined Capacity of Wells/ Well Points 4000 GPM
Method of Drilling (cable-tool, rotary, auger, etc.) BULLET Auger

ATTACH A SITE PLAN MAP OR SKETCH OF PROPOSED WELL/ WELL POINT LOCATIONS

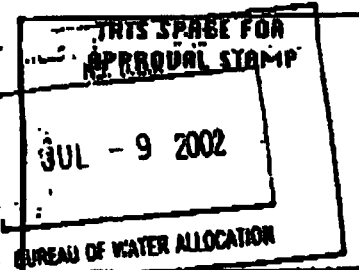
State Atlas Sheet # 25 Latitude & Longitude 40° 32' 41" N, 74° 35' 6" W

CONDITIONS:

☐ This permit is NOT VALID until a Water Allocation Permit is obtained for this project.

(Owner of dewatering project is responsible for obtaining a Water Allocation Permit Application for Temporary Dewatering Projects)

☐ Other _____



[Signature]
Signature of Owner

[Signature] JD 13757
Signature of Licensed Dewatering Contractor/Well Driller

6-26-02
Date

6-25-02
Date

COPIES:

White - Water Allocation

Yellow - Dewatering Contractor

Pink - Owner



LAG A

WELL/WELL POINT ABANDONMENT FORM

Mail to: Water Allocation
CN 029
Trenton, N.J. 08625-0029

PERMIT # DSP 0354

PROJECT NAME FEDERAL CARBONATE SITE LAGOON A

ADDRESS 26 Ruston Man, Manville, N.J. Somerset Co.
Street, Township, County

LOCATION OF WELLS/WELL POINTS VALMOR RD & VALMOR DR, Manville, Somerset Co.
Street, Township, County

FORMATION: ☒ Unconsolidated ☐ Consolidated

NUMBER OF WELL POINTS SEALED 17
Diameter 1.0 inch

NUMBER OF WELLS SEALED 17
Diameter 1.0 inch

WAS CASING LEFT IN PLACE? ☒ Yes ☐ No

If "No" is checked, indicate number of pounds of Bentonite used for plug
(Minimum of 3 feet plug, followed by backfill to grade)

 Pounds of Bentonite

If "Yes" is checked, answer the following questions:

SEALING MIXTURE (Circle One)

- ☒ a) Neat Cement
- ☐ b) Cement-bentonite
- ☐ c) Bentonite
- ☐ d) Other

MATERIAL USED:

6 Gallons of Water
94 Pounds of Cement
 Pounds of Bentonite

STEPHEN STANFORD
GRISTON DEWATERING N.E.
Name of Person Doing Sealing Work/Employer

JD-1411
License Number

[Signature]
Signature of Person Doing Sealing Work

4 WEATHER HILL RD
Address

Manville, N.J. 07619

5-13-14-04
DATE WELL/WELL POINTS WERE SEALED

COPIES: White - Water Allocation Yellow - Dewatering Contractor Pink - Owner

OUI Phase 2

Appendix F will be provided upon receipt.



State of New Jersey

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Municipal Finance and Construction Element
Division of Water Quality
P.O. Box 425
Trenton, New Jersey 08625
Fax: (609) 633-8165
www.state.nj.us/dep/dwq

DONALD T. DiFRANCESCO
Acting Governor

August 21, 2001

USEPA
290 Broadway, 19th Fl
New York, NY 10007-1866

Gentlemen:

There is enclosed a permit issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 07/17/2001 signed by Richard Puvogel, Remedial Project Manager, and Andrew N. Johnson, P.E.

The permit is for the construction and operation of a treatment works in Manville Boro, New Jersey and subject to the conditions as noted on the permit.

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to:

Bureau of Administration and Management
Municipal Finance and Construction Element
P.O. Box 425
401 E. State St., 3rd Floor
Trenton, New Jersey 08625

If you have any questions regarding the permit, please contact me by calling (609) 633-1208.

Sincerely,

Nicholas Horvath

Supervising Environmental Specialist
Bureau of Administration and Management

01-0568

Enclosure

cc: Blasland, Bouck and Lee



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
01-0568	08/21/2001	08/20/2003	.72 M.G.D.

NAME AND ADDRESS OF APPLICANT

USEPA

290 Broadway, 19th Fl
New York NY 10007-1866

LOCATION OF ACTIVITY

Manville Boro
Somerset County

This permit grants permission to:

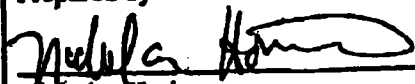
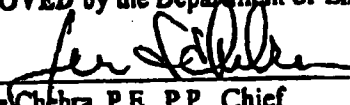
Construct and operate an oil/water separator, a polymer feed system, a settling tank, two (2) sediment filters, two (2) 30,000-pound carbon adsorption units and 3 holding tanks (total rated capacity @ 500 GPM) for groundwater remediation at the Federal Creosote Superfund Site, 172-216 E. Camplain Road, Lot 36 and 37, Block 315, in the Borough of Manville, Somerset County.

According to the plans entitled:

"Federal Creosote Superfund Site, Manville, New Jersey", prepared by Blasland, Bouck and Lee, Inc., dated July 16, 2001, unrevised, sheets 2-1, 2-2 and 2-3.

and according to the specifications entitled:

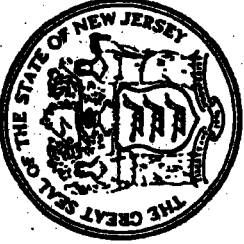
Construction Specifications, Federal Creosote Superfund Site, Manville, New Jersey", signed and sealed by Andrew N. Johnson, P.E., dated July 16, 2001.

Prepared by	APPROVED by the Department of Environmental Protection
	
Nicholas Horiates	Eugene Chebra, P.E., P.P., Chief
Supervising Environmental Specialist	Bureau of Administration and Management

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

JULY 70

Department of Environmental Protection of the State of New Jersey



This Certifies That

JAMES C. RUSSELL

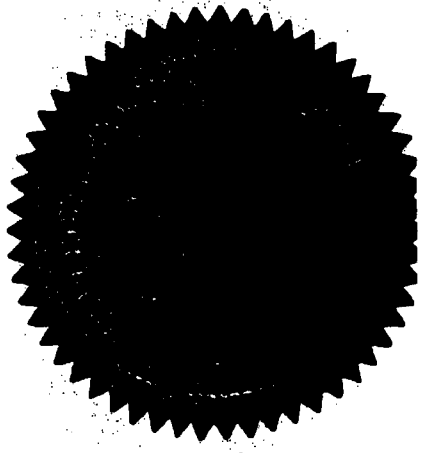
*Has passed a satisfactory examination and is hereby authorized to
operate a*

N-4 Industrial Wastewater Treatment System

In accordance with the classification prescribed on the annual license therefor.

Licenses are Renewable.

*In Witness Whereof, I have hereunto set
my hand and caused the Seal of the State
Department of Environmental Protection
to be affixed.*



Registry No. **N 1081**
Trenton, New Jersey

John A. Gostin

Dec. 10 19 90

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

STATE OF
NEW JERSEY

Hereby Certifies the Goodstanding of:

JASON CARLSON

SSN: [REDACTED]

License No. **0027421**

Reg No. **0027421**

AS A LICENSED:

N4 INDUSTRIAL

Expires: **09/30/06**

Document#: **051654170**



State of New Jersey

Department of Environmental Protection

Division of Water Quality

P.O. Box 029 Trenton, NJ 08625-0029

Phone: (609) 292-4860

Fax: (609) 984-7938

Richard J. Codey
Acting Governor

Bradley M. Campbell
Commissioner

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Rich Puvogel, Project Manager
USEPA
290 Broadway - 19th Flr
New York, NY 10278

NOV 07 2005

Re: Final Surface Water Minor Mod Permit Action to Extend the Expiration Date
Category: B4B-General Permit GW Petro Prod Cleanup
NJPDES Permit No. NJG0139050
Federal Creosote Superfund Site
Manville Boro, Somerset County

Dear Mr. Puvogel:

As you know you were issued an Individual NJPDES/DSW General Permit Authorization under the General Groundwater Petroleum product Cleanup (B4B) Permit. This individual General Permit Authorization allows for the discharge of treated groundwater through the discharge outfall DSN001D, as specified on your permit authorization page. The Department understands that you are requesting an extension to the expiration date of this authorization from May 31, 2005 to Nov. 30, 2008, through a letter dated May 11, 2005. The Department is hereby granting the extension.

The Department has evaluated available effluent data and flow values. Based on the fact that effluent flow values are of an intermittent nature, flow values are generally decreasing, and the permittee's consistent compliance record with effluent levels below the permit limits or at non-detectable levels, the Department has imposed a twice per month monitoring frequency. Please replace the existing authorization page and Part III in your permit with the enclosed attachment. All other terms and conditions of your existing permit are unchanged and remain in effect. The Department considers this extension of the expiration date to be a minor modification of the permit in accordance with N.J.A.C. 7:14A-16.2.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b) 4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available through Maps and Publications Sales Office; Bureau of Revenue, PO Box 417, Trenton, New Jersey 08625, at (609) 777-1038.

If you have questions or comments regarding the final action, please contact Nazia Mughis-Sohrawardy at (609) 292-4860.

Sincerely,

Pilar Patterson, Chief
Bureau of Point Source Permitting Region 2

Enclosures

cc: Permit Distribution List, Masterfile #: 60255; PI #: 92460

New Jersey Department of Environmental Protection



Bureau of Point Source Permitting – Region 2
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 292- 4860

AUTHORIZATION TO DISCHARGE
B4B –General Permit GW Petro Prod Cleanup

Facility Name: Federal Creosote Superfund Site

PI ID #: 92460

Facility Address:
172-216 E Camplain Road
Manville, NJ 08835

NJPDES #: NJG0139050

SIC Code: 2491

Type of Activity: Surface Water GPA Mod

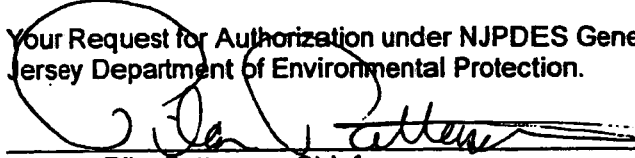
Owner:
USEPA
290 Broadway - 19TH FLR
New York, NY 10278

Operating Entity:
USEPA
290 Broadway – 19th Floor
New York, NY 10278

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
Authorization under the B4B	11/25/2003	12/1/2003	5/31/2005
Minor Modification to B4B to extend expiration date	5/20/2005	6/1/2005	11/30/2008

Outfall Number	Latitude	Longitude	Receiving Stream	Classification
DSN 001D	40° 32' 28 "	74° 34' 42 "	Millstone River	FW2-NT

Your Request for Authorization under NJPDES General Permit No. NJ0102709 has been approved by the New Jersey Department of Environmental Protection.


Pilar Patterson, Chief
Bureau of Point Source Permitting – Region 2
Division of Water Quality
New Jersey Department of Environmental Protection

Date: 5/20/2005

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date: 06/01/2005** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Copper, Total (as Cu)	Effluent Gross Value	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Nickel, Total (as Ni)	Effluent Gross Value	*****	*****	*****	*****	72 Monthly Average	144 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Lead, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	37 Monthly Average	79 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Fluoranthene	Effluent Gross Value	*****	*****	*****	*****	25 Monthly Average	68 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Fluorene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Phenanthrene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			
Pyrene	Effluent Gross Value	*****	*****	*****	*****	25 Monthly Average	67 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	20	20			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final

PHASE Start Date: 06/01/2005

PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
2,4-Dimethylphenol	Effluent Gross Value	*****	*****	*****	*****	18 Monthly Average	36 Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Phenol Single Compound	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	26 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			



State of New Jersey

Department of Environmental Protection
Division of Water Quality
P.O. Box 029 Trenton, NJ 08625-0029
Phone: (609) 292-4860
Fax: (609) 984-7938

Bradley M. Campbell
Commissioner

am... E. McGreevey
Governor

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

DEC 04 2003

Rich Puvogel, Project Manager
USEPA
290 Broadway
19th Floor
New York, NY 10278

Re: Surface Water GPA Renewal
Category: B4B -General Permit GW Petro Prod Cleanup
NJPDES Permit No. NJG0139050
Federal Creosote Superfund Site
Manville Boro, Somerset County

Dear Mr. Puvogel:

Enclosed is an Individual NJPDES/DSW General Permit Authorization under the General Groundwater Petroleum Product Cleanup (B4B) Permit which was issued by the Department on October 31, 2003. This General Permit Authorization is issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations N.J.A.C. 7:14A-1 et seq.

This individual General Permit Authorization allows for the discharge of treated groundwater through the discharge outfall specified on your permit authorization page. Violation of any condition of this authorization may subject the permittee to significant penalties.

The Department recognizes that the discharge is a dewatering discharge that is expected to occur for approximately eighteen months. Please note that because this is a dewatering discharge, you are required to sample twice per week for all the parameters specified in Part III. Due to the short term nature of the discharge as well as the fact that any metals present were at average levels below the remediation standards at N.J.A.C. 7:14A-12, Appendix B, the Department has not imposed the chronic whole effluent toxicity requirements at this time. The Department reserves the right to impose such requirements in a future permit action if deemed necessary.


The enclosed Authorization to discharge groundwater under the General Permit shall expire on November 30, 2008 or the expiration date of the Individual Authorization Page. Applications for renewal of this Authorization must be submitted to the Department at least 180 days prior to expiration of the Individual Authorization pursuant to N.J.A.C. 7:14A-4.2(e)3.

A copy of the Department's most recently revised Discharge Monitoring Report (DMR) Instruction Manual is available if needed by contacting the Bureau of Point Source Permitting. Please note that if there is a discrepancy between the General Permit Authorization and the DMR Instruction Manual, the General Permit Authorization always takes precedence.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b)4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available through Maps and Publications Sales Office; Bureau of Revenue, PO Box 417, Trenton, New Jersey 08625, at (609) 777-1038.

If you have questions or comments regarding the final action, please contact Susan Rosenwinkel at (609) 292-4860.

Sincerely,



Pilar Patterson, Chief
Bureau of Point Source Permitting - Region 2

Enclosures

c: Permit Distribution List

Masterfile #: 60255; PI #: 92460

Table of Contents

This final general permit authorization contains the items listed below:

- 1. Cover Letter**
- 2. Table of Contents**
- 3. NJPDES Permit Authorization Page for NJG0139050**
- 4. NJPDES Permit Authorization Page for Master General Permit NJPDES No. NJ0102709**
- 5. USGS Map**
- 6. Site Map**
- 7. Part I – General Requirements: NJPDES**
- 8. Part II – General Requirements: Discharge Categories**
- 9. Part III – Limits and Monitoring Requirements**
- 10. Part IV – Specific Requirements: Narrative**

New Jersey Department of Environmental Protection



Bureau of Point Source Permitting – Region 2
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 292-4860

AUTHORIZATION TO DISCHARGE
B4B -General Permit GW Petro Prod Cleanup

Facility Name: Federal Creosote Superfund Site

PI ID #: 92460

Facility Address:
172-216 E Camplain Road
Manville, NJ 08835

NJPDES #: NJG0139050

SIC Code: 2491

Type of Activity: Surface Water GPA Renewal

Owner:
USEPA
290 Broadway
19TH Floor
New York, NY 10278

Operating Entity:
USEPA
290 Broadway
19TH Floor
New York, NY 10278

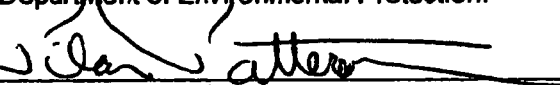
Issuance Date:
11/25/2003

Effective Date:
12/1/2003

Expiration Date:
5/31/2005

Outfall Number	Latitude	Longitude	Receiving Stream	Classification
DSN 001D	40° 32' 28"	74° 34' 42"	Millstone River	FW2-NT

Your Request for Authorization under NJPDES General Permit No. NJ0102709 has been approved by the New Jersey Department of Environmental Protection.


Pilar Patterson, Chief
Bureau of Point Source Permitting – Region 2
Division of Water Quality
New Jersey Department of Environmental Protection

Date: November 25, 2003



NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0102709

Final: Surface Water Master General Permit Renewal

Permittee:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Co-Permittee:

Property Owner:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Location Of Activity:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
B4B -General Permit GW Petro Prod Cleanup	10/31/2003	12/1/2003	11/30/2008

By Authority of:
Commissioner's Office


DEP AUTHORIZATION

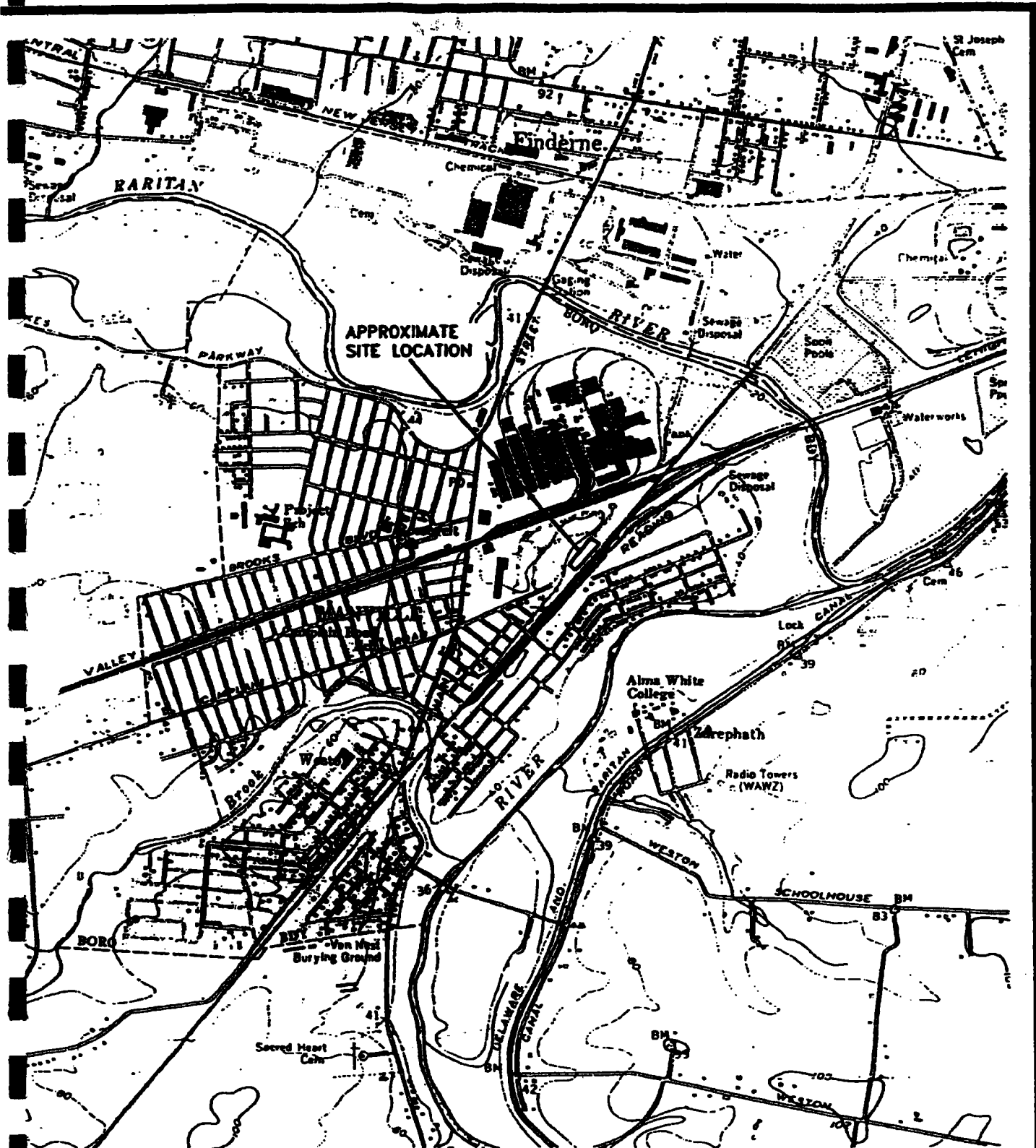
Pilar Patterson, Chief
Bureau of Point Source Permitting - Region 2
Division of Water Quality


DEP AUTHORIZATION

Howard Tompkins, Chief
Bureau of Point Source Permitting - Region 1
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Division of Water Quality



SOURCE:
USGS 7.5 MINUTE QUADRANGLE
BOUND BROOK, NJ
1955
PHOTOREVISED 1970
PHOTOINSPECTION 1977

SCALE = 1:24,000
HUC 14:2030105110
EPA Reach No: 02030105 - 026
PSD: 07170000

FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
NJPDDES/DSW-CATEGORY B4B GPPC PERMIT

USGS SITE LOCATION MAP

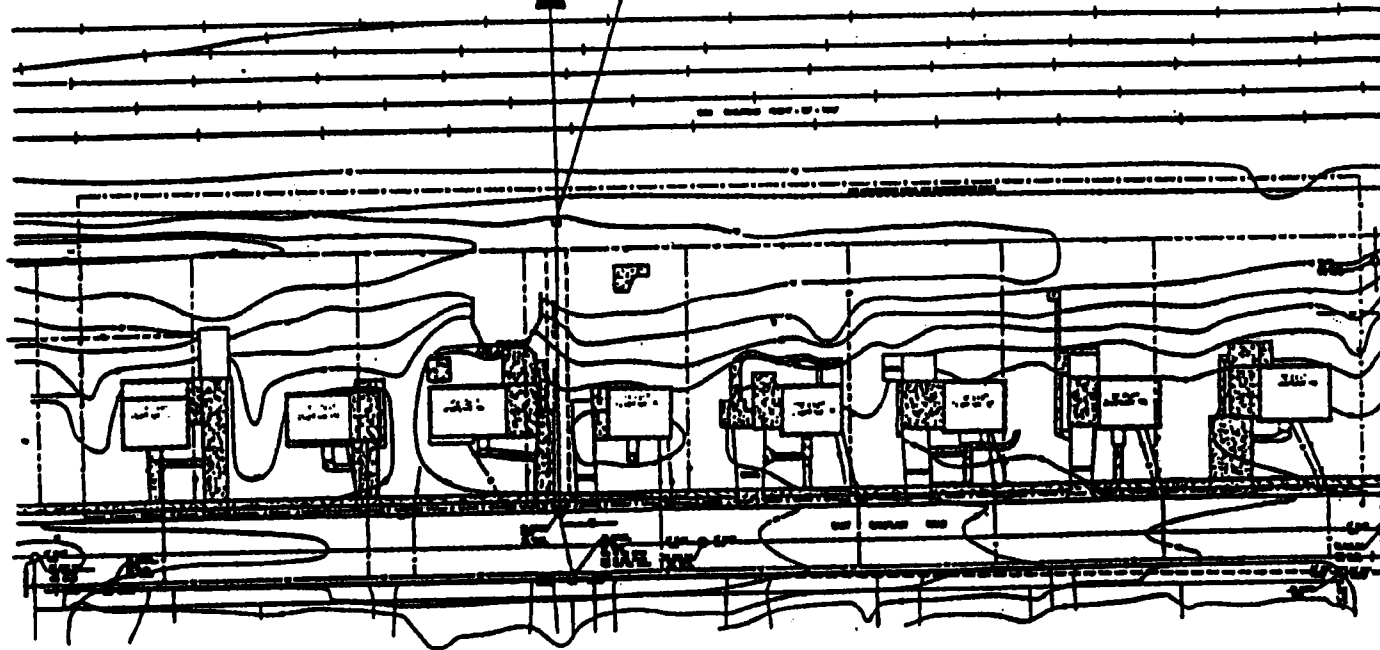
BBL

BRASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
C

TO DSN001
(AT MILLSTONE RIVER)

STORM SEWER
(DISCHARGE STRUCTURE)



LEADS
--- CUSTODY FORCE/
CONSTRUCTION LIMITS

SOURCE:
COM FEDERAL PROGRAMS
CORPORATION,
PG-CST/27A, SEPTEMBER 2000,
"CUSTODY SITE CONSTRUCTION"



FEDERAL CUSTODY SUPERFUND SITE
MANUAL, NEW JERSEY
HJPOCS/DSW-CATEGORY B4B GPPG FOR

SITE PLAN

BBL BAKER BROS. & CO. INC.
engineers & architects

PLAN
A

1. SITE PLAN
2. ELEVATION
3. SECTION

PART I GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 <u>et seq.</u>
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
 - i. Surface Water Quality Standards N.J.A.C. 7:9B-1

B. General Conditions

1. Scope

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: 180 days before the the Expiration Date.

3. Notification of Non-Compliance

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Certification

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.

- i. Notifications shall be submitted to:
NJDEP
Examination and Licensing Unit
P.O. Box 417
Trenton, New Jersey 08625
(609)777-1012

- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

8. Residuals Management

- a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:
- i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;
 - ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;
 - iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;
 - iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;
 - v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and
 - vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.
 - vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)
- b. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.

- c. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.
- d. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department.
- e. The preparer must notify and provide information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements to the person who applies bulk residual to the land. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C. 7:14A-20.7(j).
- f. The preparer who provides biosolids to another person who further prepares the biosolids for application to the land must provide this person with notification and information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements.
- g. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix and/or 20.7(b)1.x, as applicable, to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

PAK III

LIMITS AND MONITORING REQUIREMENTS

A. 001D REMEDIATION EFFLUENT

Location Description

The facility is authorized to discharge treated dewatered groundwater into the Millstone River, classified as FW2-NT(C2), via a storm sewer at Lat. 40°32'28" & Lon. 74°34'42". Effluent sampling shall be performed after all treatment steps but prior to discharge. Influent sampling shall be performed prior to any treatment.

Discharge Categories

General Permit GW Petro Prod Cleanup

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	2 / Week	Metered	January thru December	Final	
✓ Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	2 / Week	Metered	January thru December	Final	
✓ pH	Effluent Gross Value	6.0 SU	Monthly Minimum	2 / Week	Grab	January thru December	Final	
✓ pH	Effluent Gross Value	9.0 SU	Monthly Maximum	2 / Week	Grab	January thru December	Final	
✓ Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Solids, Total Suspended	Effluent Gross Value	40 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Petroleum Hydrocarbons	Effluent Gross Value	15 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Carbon, Tot Organic (TOC)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Carbon, Tot Organic (TOC)	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Chromium, Total (as Cr)	Effluent Gross Value	50 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Chromium, Total (as Cr)	Effluent Gross Value	100 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Copper, Total (as Cu)	Effluent Gross Value	50 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Copper, Total (as Cu)	Effluent Gross Value	100 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Nickel, Total (as Ni)	Effluent Gross Value	72 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Nickel, Total (as Ni)	Effluent Gross Value	144 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Lead, Total Recoverable	Effluent Gross Value	37 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Lead, Total Recoverable	Effluent Gross Value	79 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluoranthene	Effluent Gross Value	25 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluoranthene	Effluent Gross Value	68 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluorene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluorene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenanthrene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenanthrene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Pyrene	Effluent Gross Value	25 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	20 Rec Quant Level
✓ Pyrene	Effluent Gross Value	67 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	20 Rec Quant Level
✓ Benzo(a)anthracene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Benzo(a)anthracene	Effluent Gross Value	10 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Naphthalene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	8 Rec Quant Level
✓ Naphthalene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	8 Rec Quant Level
✓ Methyl tert-butyl Ether	Raw Sew/influent	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Raw Sew/influent	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Methyl tert-butyl Ether	Effluent Gross Value	70 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Effluent Gross Value	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Percent Removal	85 PERCENT	Monthly Av Minimum	2 / Week	Calculated	January thru December	Final	
✓ Benzene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	7 Rec Quant Level
✓ Benzene	Effluent Gross Value	7 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	7 Rec Quant Level
✓ Tetrachloroethylene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tetrachloroethylene	Effluent Gross Value	16 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ 2,4-Dimethylphenol	Effluent Gross Value	18 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ 2,4-Dimethylphenol	Effluent Gross Value	36 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Phenol Single Compound	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenol Single Compound	Effluent Gross Value	26 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

General Permit GW Petro Prod Cleanup

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the appropriate Bureau of Point Source Permitting, as listed in this permit authorization.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual; or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. However, if additional samples are taken, analytical results shall be reported as appropriate.
- g. Analysis for total recoverable lead shall follow the sample preparation procedures contained in the Method 200.2 "Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements".
- h. The permittee shall use EPA Method 624 in analyzing methyl tert butyl ether (MTBE) and tertiary butyl alcohol (TBA).
- i. Influent shall be sampled at a point prior to any treatment by the permittee's treatment units.
- j. If the effluent MTBE level is less than or equal to 70 ug/L during a calendar month, the 85% MTBE minimum percent removal limitation does not apply. If the MTBE minimum percent removal limitation does not apply, the permittee shall report "Code =N" on its monitoring report form under MTBE percent removal. If the daily maximum effluent MTBE level is greater than 70 ug/L for a calendar month, an 85% MTBE minimum percent removal limitation does apply. The permittee shall report the minimum percent removal value achieved during that calendar month on its monitoring report form under MTBE minimum percent removal.
- k. Flow shall be measured using a meter unless specified otherwise in the individual authorization.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and all data used to complete the application for this permit.

- b. Records of monitoring information shall include the date, locations and time of sampling or measurements, the individual who performed the sampling or measurements, the date the samples were collected, the date the samples were analyzed, the individual who performed the analysis, the analytical method used, and the results.
- c. The permittee shall retain copies of all reports required by a NJPDES permit and records of all data used to complete the application for a NJPDES permit for a period of at least 5 years unless otherwise required by 40 CFR Part 503.

C. REPORTING

1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the DEP on the forms provided to the following addresses:
 - i. NJDEP
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, New Jersey 08625
- b. If requested by the Water Compliance and Enforcement Bureau, please send the information requested to the following address:
 - i. Northern Bureau of Water Compliance and Enforcement
1259 Route 46 East
Parsippany, NJ 07054-4191
(Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren)
 - ii. Southern Bureau of Water Compliance and Enforcement
One Port Center
2 Riverside Drive, Suite 201
(Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem)
 - iii. Central Bureau of Water Compliance and Enforcement
300 Horizon Center, P.O. Box 407
Trenton, NJ 08625-0407
(Counties of Mercer, Middlesex, Monmouth, Ocean and Union)
- c. For submittal of paper monitoring report forms:
 - i. All monitoring reports shall be signed by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility in accordance with N.J.A.C. 7:14A-6.9.
 - ii. The highest ranking official may delegate responsibility to sign in accordance with NJAC 7:14A-6.9(c).
- d. Monitoring reports shall be completed in accordance with the current Discharge Monitoring Report Manual and any updates.
- e. If monitoring for a parameter is not required for that monitoring period, the permittee is required to report "CODE=N" on that Monitoring Report Form.
- f. For intermittent discharges, the permittee shall obtain a sample during at least one of the discharge events occurring during a monitoring period. Place a check mark in the "No discharge this monitoring period" box on the monitoring report submittal form only if there are no discharge events during the entire monitoring period.

D. OPERATIONAL ISSUES

1. Operational Requirements

- a. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.
- b. No backwash from any treatment unit(s) for maintenance purposes or any other reasons shall be discharged through the authorized outfall(s).
- c. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.
- d. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge.

E. FACILITY MANAGEMENT**1. Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam, or cause objectionable deposits, or foaming of the receiving water.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.

2. Applicability of Discharge Limitations and Effective Dates

- a. This master permit includes a schedule of compliance for:
Benzene (for discharges to saline waters for Tables A, B and D) - the initial phase limit of 50 ug/L as a daily maximum is effective until November 30, 2006. The final phase limit of 7.0 ug/L as a daily maximum is effective on December 1, 2006.
Total Recoverable Lead - the initial phase limits of 37 ug/L as a monthly average and 79 ug/L as a daily maximum are effective until November 30, 2006. The final phase limit of 10 ug/L as a daily maximum with monthly average monitoring is effective on December 1, 2006. This schedule of compliance does not apply to Table C.
Chronic WET (Table D only and if metals are present) - the initial phase limit of "monitoring only" is effective on the effective date of the individual authorization. The final phase limit of 61% is effective three years from the effective date of the individual authorization.

3. Use of Chemical Addition Agents

- a. If a permittee proposes addition of any chemical or biofouling agents in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing prior to use of such compounds.
- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a material safety data sheet for the product(s).
- c. This letter shall be submitted to the appropriate Bureau of Point Source Permitting which issued the individual authorization where the address is included in the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under the GPPC permit renewal. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for purposes of improving treatment system performance.

4. Operation, Maintenance and Emergency conditions

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with NJAC 7:14A-6.12(d).

5. Third Party Storm Sewers

- a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this GPPC permit renewal to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

6. Permanent Cessation of Discharge to Surface Waters

- a. If the permittee permanently discontinues its discharge to surface waters for 30 days or more the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:
 - i. NORTHERN BUREAU (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren) - (973) 299-7592.
 - ii. CENTRAL BUREAU (Counties of Mercer, Middlesex, Monmouth, Ocean and Union) - (609) 584-4200.
 - iii. SOUTHERN BUREAU (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem) - (609) 968-2640.

7. Revocation of an Individual Authorization under the GPPC Permit.

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the GPPC permit. The permittee can obtain the necessary revocation forms by accessing www.state.nj.us/dep/dwq or by contacting the Department's Bureau of Permit Management at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.
- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee. However, the Department will not revoke an individual authorization if the Site Remediation Program disagrees that revocation is appropriate.

F. CONDITIONS FOR MODIFICATION**1. Causes for modification**

- a. Pursuant to N.J.A.C. 7:14A-6.2(a)(10)(iii), the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.
- b. The Department may incorporate requirements to file monitoring data required by this permit electronically through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1.

OUI Phase 2

Appendix I will be provided upon receipt.

Sevenson Environmental Services, Inc.

- **INSPECTION SUMMARY FORM**
- **SITE INSPECTION FORM**

Sevenson Environmental Services, Inc. Health and Safety Site Inspection Form

Inspector: Paul J. Hitcho

Inspection Date: April 24, 2002

Section 1: Project Description

Project Name: Federal Creosote

Site Location: Manville, NJ

Project Number: _____

Project Manager: Gordon McDonald

Superintendent: Perry Novak

Site Safety and Health Officer (SSHO): Eric Tschudi

Operations:

☐ Industrial Operations

☒ Remedial Operations

☐ Dewatering Operations

☐ Drum Handling Operations

☐ Drilling Operations

☐ Other: _____

☐ Emergency Response

☒ Excavation/Trenching/Shoring

☐ Confined Space Entry

☐ Thermal Desorption Operations

☐ Decontamination Operations

Section 2: General Site Setup/Support Zone

A. Site Setup

1. Are work zones clearly defined?

☒ YES ☐ NO ☐ N/A

2. Are support trailers located to minimize exposure from a potential release?

☒ YES ☐ NO ☐ N/A

3. Are support trailers accessible for approach by emergency vehicles?

☒ YES ☐ NO ☐ N/A

4. Is the site properly secured during and after work hours?

☒ YES ☐ NO ☐ N/A

5. Are adequate communications (telephones, radios) available on site?

☒ YES ☐ NO ☐ N/A

6. Is drinking water available?

☒ YES ☐ NO ☐ N/A

7. Are adequate toilet facilities available on site?

☒ YES ☐ NO ☐ N/A

8. Are eating and food storage areas clean and maintained?

☒ YES ☐ NO ☐ N/A

9. Is there adequate lighting?

☒ YES ☐ NO ☐ N/A

10. Are Lock-Out/Tag-Out Kits available on site?

☒ YES ☐ NO ☐ N/A

11. Do all site personnel have a 40 hour certificate?

☒ YES ☐ NO ☐ N/A

12. Do Managers and/or Supervisors have a certificate for the 8 hours of additional training?

☒ YES ☐ NO ☐ N/A

- | | | | |
|---|---|-----------------------------|------------------------------|
| 13. Have all site personnel received medical surveillance in the previous 12 months? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 14. Are disposal arrangements in place for spent PPE and decontamination wash waters? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 15. Is all of the emergency and first aid equipment that is identified in the Site HASP available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 16. Does the SSHO conduct daily safety inspections which are documented to identify safety hazards and unsafe conditions? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 17. Are accident/injury investigation forms available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 18. Are all known safety hazards and unsafe conditions corrected? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

B. Health and Safety Plan

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Is a Site HASP accessible to all employees? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Has the Site HASP been briefed to employees on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are the MSDSs available for review by employees on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is there a designated SSHO on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are employees aware and understand the results of exposure? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is the air monitoring plan in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are air monitoring devices properly used, calibrated and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are air monitoring results logged and available for review? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Does the Site HASP include the following: | | | |
| • Site Characterization, description of existing conditions. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Personnel training requirements. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • A written PPE program describing the types and usage. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Listing of PPE required for each site task. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is there a hazard/risk analysis for all site activities? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the frequency and types of air monitoring presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are both personnel and equipment decontamination procedures presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is an emergency response plan presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the medical surveillance requirements presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Has the nearest medical assistance been identified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is there a discussion of site control measures (i.e., fencing, security, work zones)? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Description of confined space entry procedures (if this work will occur). | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Has a spill containment program been included? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is the Severson Corporate HASP available for all pertinent activities? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the programs and procedures presented in the Site and Corporate HASP being followed? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Have site personnel received training as outlined in the Site HASP? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

C. Site Posters

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are the following documents posted in a prominent and accessible area? | | | |
| <input checked="" type="checkbox"/> Department of Labor 5 - 1 Poster | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| <input checked="" type="checkbox"/> OSHA 300 Log | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

D. Emergency Plans

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are emergency telephone numbers posted and verified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Have emergency escape routes been designated? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are employees familiar with the emergency signals? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is the hospital route posted? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are employees familiar with emergency procedures? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is the inventory of emergency response equipment and supplies adequate? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

E. Medical and First Aid

- | | | | |
|--|---|--|------------------------------|
| 1. Are First Aid Kits accessible and identified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are emergency eye washes available and in proper working order? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are emergency showers available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are the First Aid Kits large enough for the number of people on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are the First Aid Kits inspected after each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are there First Aid/CPR trained personnel available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Is a heat/cold stress monitoring program in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Have First Aid/CPR trained personnel received Blood Borne Pathogen training? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Have First Aid/CPR trained personnel been offered the Hepatitis B Vaccination shot? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Is there a written record of available if the Employee declines the shot? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |

F. Fire Protection

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Has a fire alarm been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Do employees know the location and use of all fire extinguishers on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are fire extinguishers marked and inspected monthly? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are combustible materials segregated from open flames? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

G. Fire Prevention

- | | | | |
|--|---|-----------------------------|---|
| 1. Has a smoking policy been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is smoking prohibited in flammable storage areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are fire lanes established and maintained? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 4. Are flammable dispensing systems grounded and bonded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are proper receptacles (i.e., safety cans, cabinets) available for the storage of flammables? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are gasoline cans of the proper type (not plastic?) | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Has the local fire department been contacted? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Is ground and bonding equipment available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are fuel tanks properly contained with a dike? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Is the dyke capable of holding quantities being contained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

Section 3: Work Areas/Contamination Reduction Zone/Exclusion Zone

H. Walking and Working Surfaces

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are accessways, stairways, ramps, and ladders clean of ice, mud, snow, or debris? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are ladders within maximum length requirements? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are ladders properly barricaded if used in passageways, doors, or driveways? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are broken or damaged ladders tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are metal ladders prohibited in electrical service areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are stairways and floor openings guarded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are safety feet installed on straight and extension ladders? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Is general housekeeping up to our standards? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are fall protection devices available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Are fall protection devices properly used and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Are ladders secured when in use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. Is there a written Fall Protection Plan? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 13. Have employees received training in Fall Protection? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

I. Materials Handling

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are materials stacked and stored as to prevent sliding or collapsing? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are flammables and combustibles stored in non-smoking areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is machinery braced and lock-out/tag-out procedures in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are tripping hazards labeled? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are riders prohibited on materials handling equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are OSHA approved manlifts provided for the lifting of personnel? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are all containers labeled as to contents? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are flammable liquids stored in approved safety cans? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are hoses secured and in good condition? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. If powered industrial trucks or fork lifts including "off road" forklifts are used, have operators been certified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

J. Hand and Power Tools

- | | | | |
|--|---|-----------------------------|---|
| 1. Are defective hand and power tools tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is eye protection available and used when operating power tools? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are guards and safety devices in place on power tools? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are hand and power tools inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are spark-resistant tools available? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 6. Are extension cords in good repair? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

K. Slings and Chains ☐ N/A

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are damaged slings, chains, and rigging tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are slings inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are slings padded or protected from sharp corners? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

4. Do employees keep clear of suspended loads? ☒ YES ☐ NO ☐ N/A

L. Personal Protective Equipment (PPE)

- | | | | |
|--|---|-----------------------------|---|
| 1. Have levels of PPE been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Do all employees know their level of protection? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Have respirator wearers been fit tested in the past year? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are respirators used, decontaminated, inspected, and stored according to standard procedures? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Is defective PPE tagged? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Does compressed breathing air meet CGA Grade "D" minimum? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 7. Are airlines monitored and protected? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 8. Are there sufficient quantities of safety equipment and repair parts? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Is PPE and respiratory equipment properly used and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Is hearing protection available for high noise? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Is all PPE that has been used either disposed of or thoroughly cleaned prior to removal from any exclusion zone? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. Is there an adequate supply of PPE available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 13. Are donning and doffing procedures identified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 14. If SCBAs are on site, are they being inspected at least monthly? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

M. Electrical

- | | | | |
|--|---|--|------------------------------|
| 1. Are warning signs exhibited on high voltage equipment (>250V)? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is electrical equipment and wiring properly guarded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are electrical lines, extension cords, and cables guarded and maintained in good condition? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are extension cords kept out of wet areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Is damaged electrical equipment tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Have underground electrical lines and utilities been identified by proper authorities? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are qualified electricians only allowed to work on electrical systems? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are lock-out/tag-out procedures in place when working with electrical systems? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are ground fault interrupter circuits used on all outdoor electrical hook-ups? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Have the GFCIs been tested? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Are there any open, exposed electrical panels on site? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |

N. Compressed Gas Cylinders ☐ N/A

- | | | | |
|--|---|--|---|
| 1. Are breathing air cylinders charged only to prescribed pressures? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 2. Are like cylinders segregated in well ventilated areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is smoking prohibited in cylinder storage areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are cylinders stored securely and upright? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are cylinders protected from snow, rain, etc.? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are cylinder caps in place before cylinders are moved? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are fuel gas and O2 cylinders stored a minimum of 20 feet apart? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

O. Scaffolding☐ N/A

- | | | | |
|--|---|--|---|
| 1. Is scaffolding placed on a flat, firm surface? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are scaffolding planks free of mud, ice, grease, etc.? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is scaffolding inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are defective scaffolding parts taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Does scaffold height exceed 4 times the width or base dimension? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Does scaffold planking overlap a minimum of 12 inches? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 7. Does scaffold planking extend over end supports between 6 to 18 inches? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 8. Are employees restricted from working on scaffold during storms and high winds? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are all pins in place and wheels locked? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

P. Personnel Decontamination☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are decontamination stations set-up on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is a contamination reduction zone set-up on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are waste receptacles available for contaminated PPE? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are steps taken to contain liquids used for decon? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Have decontamination steps and procedures been covered by the SSHO in site briefings? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is all PPE and respiratory equipment cleaned daily? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

Q. Equipment Decontamination☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Has an equipment decon been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is contaminated wash water properly contained and disposed of? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are all pieces of equipment inspected for proper decontamination before leaving site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are all pieces of equipment being cleaned per HASP? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

R. Welding and Cutting☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are fire extinguishers present at welding operations? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are confined spaces such as tanks, tested prior to welding? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are Hot Work Permits available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are proper gloves, helmets, aprons available for welding? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are welding machines properly grounded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are spare oxygen and gas cylinders stored a minimum of 20 feet apart when not in use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are only trained personnel permitted to operate welding and cutting equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are welding screens available for use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

S. Excavation, Trenching, and Shoring ☐ N/A

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are employee protection systems in place to protect employees? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are guardrails or fences placed around excavations near pedestrian or vehicle thoroughfares? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are utilities located and marked? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are ladders used in trenches over 4 feet deep? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Is material excavated placed a minimum of 2 feet from the excavation? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is a competent person designated for the excavation? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

T. Confined Spaces ☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Have employees been trained in the hazards of CS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are CS entry permits available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is a CS rescue team (on or off site) available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are CS entry procedures being followed? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

U. Radiation ☒ N/A

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 1. Have employees been trained in the hazards of radiation or received Radiation Worker Training? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is the NRC Form 3 or Agreement State equivalent posted? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Does the site possess radiation detection instrumentation? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Has the instrumentation been calibrated in the past 12 months? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are the calibration papers on file for the instruments on site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is dosimetry issued at the site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Has NRC Form 4 been completed for individuals' assigned dosimetry? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are routine radiological surveys conducted in offices and break rooms? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Air monitoring program established? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Have Radioactive Source Instruments been leaked checked in the past six months? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Do Radioactive Source Instruments have proper postings posted at storage locations? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Has a public dose exposure estimate been performed for Radioactive Source Instrument storage areas? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| If "yes" is annual dose to the public less than 100 mrem/yr? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | |

Section 4: Equipment/Vehicles

V. Motor Vehicles

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are vehicles inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are persons licensed or certified for the equipment they operate? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are unsafe vehicles tagged and reported to supervision? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are vehicles shut down before fueling? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. When backing vehicles, are spotters provided? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is safety equipment on vehicles? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are loads secure on vehicles? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

W. Heavy Equipment

- | | | | |
|--|---|-----------------------------|---|
| 1. Is heavy equipment inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is defective equipment tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are project roads and structures inspected for load capacities and proper clearances? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is heavy equipment shut down for fueling and maintenance? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are back-up alarms installed and working on equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Have Operators been properly trained to operate the equipment they are using? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are riders prohibited on heavy equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are guards and safety devices in place and used? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are barriers set up to prevent personnel from entering the area within the swing radius of track equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. If not, are warning signs posted on both sides and the rear of track equipment warning employees to stay out of the swing radius and have site personnel been trained to stay out of the swing radius areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Are annual inspection reports for all cranes available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. In Michigan, are annual inspection reports for all track excavators available on site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |

Section 5: Comments and Recommendation (attach extra sheets if necessary)

Item No.	Item Description	Unit	Quantity	Unit Price	Total Price
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[illegible]

Sevenson Environmental Services, Inc.

Health and Safety Inspection Summary Form

Inspection Date: April 24, 2002 Inspector: Paul Hitcho

Site: Federal Creosote Superfund Site

Project Manager: Gordon McDonald

Superintendent: Perry Novak

Site Safety and Health Officer: Eric Tschudi

OPERATIONS REVIEWED:

OU-1 Phase 1 Lagoon B

OU-2 Phase 1 14 Additional Properties

Corrective Measures Required?

☒ Yes

☐ No

If Yes, please briefly describe issues and suggested corrective measure(s). See completed Site Inspection Form for details.

Institute Bloodborne Pathogen Program

Establish protection for gas compressed gas cylinders

April 26, 2002

Date Prepared

Inspector Signature

Distribution: Director of Health and Safety (Paul Hitcho VP, Ph.D., CIH)
Project Manager (Gordon McDonald)
Superintendent (Perry Novak)
Health and Safety Officer (Eric Tschudi)

MEMORANDUM FOR EC-EB (DANIELS)

SUBJECT: Federal Creosote: 2003 Health and Safety Audit
Summary and Discussion

1. On August 20, 2003 Mr. Raymond Lo, US Army Corps of Engineers New York District (CENAN), and Mr. Daniel Mitchell, Kansas City District (CENWK), completed a detailed health and safety field audit of construction operations at the Federal Creosote Superfund Site. The intent of the audit was to document the Contractor's, Severson Environmental Services' (SES), health and safety performance as specified in the contract; provide documentation to assist in assigning an appropriate contractor health and safety performance rating; and provide opportunity to exchange information and experiences on ways to improve quality and performance. The results of this audit are to be used in conjunction with additional information collected by CENAN site project managers and Safety Office personnel.
2. The auditor's would like to thank site personnel for their cooperation in completing the audit efficiently, specifically Mr. Eric Tschudi and Mr. Davis Raver, Jr. The significant efforts of all site personnel (USEPA, SES and USACE) were evident and directly contributed to the positive findings of the audit.
3. The audit utilized a prepared checklist that was provided to the Contractor prior to the site visit. The checklist focused on record keeping and action items stated in the Contractor's current versions of the Site Specific Safety and Health Plan (SSHP), SSHP Amendments, and the Ambient Air Monitoring Plan (AAMP). For each checklist item includes a reference to these site plans, the contact specification, or Federal regulation are included. Findings and recommendations have been subjectively ranked on the checklist (last column) to assist in prioritizing corrective action.
4. A summary of findings, observations, and recommendations is included on the attached checklist. For each item with a comment, the field observation is italicized and follows a "D" symbol.
5. Overall the excellent performance found during the previous audit of the site continues. The program was found to be in compliance with contract health and safety requirements. The teamwork between the contractor, USEPA, and USACE personnel continue to enhance the effectiveness of the site safety and health program.

6. To date, the contractor has achieved over 218,000 man-hours without a lost-time injury. This achievement could be attributed to the continued efforts by site personnel an effective participation and involvement of safety personnel into the day-to-day site operations and planning.
7. Along with maintaining last year's performance level, the program has also improved. Improvements observed during the audit included: providing an onsite AED; improving the mobile SZ supply/worker rest areas (portable misting cooling fans) to further reduce and manage risk related to heat injuries; improved distribution of water and "thirst quencher"; and implementation of a "medical data sheet" to increase the effectiveness of emergency medical response.
8. Although improvements have been made, the program has not fully capitalized on the opportunity, stemming from the positive relationship of management and workers, to implement processes that will increase worker involvement in the safety program.
9. In addition, it is recommended that the Contractor evaluate more structured systems that to integrate "continual improvement" processes to increase program effectiveness and documentation. These systems are detailed in guidance from the International Standards Organization, National Safety Council, and OSHA. Processes may include more structured, thorough, and documented inspection, hazard identification, accident investigation, and corrective action procedures.
10. However, many of these requirements go beyond current contract requirements. Therefore, in relation to contract requirements, the performance of the Contractor meets or exceeds requirements. Site personnel have demonstrated initiative to improve, as demonstrated by the changes implemented from the last audit, and therefore, the auditors recommend an excellent performance rating.
11. Please contact me at (816) 983-3911 or via email at daniel.d.Mitchell@usace.army.mil if you have any questions or concerns related to this audit.

SIGNED

Daniel D. Mitchell, CIH
Industrial Hygienist
CENWK EC-EF

CC: CENAN CO-NN (URBANIK)
CENAN CO-NE (KOLB)
CENAN CO-NE (TALWAR) electronic
CENAN SO (LO) electronic
CENWK EC-EF (POULIOT)
SES (HITCHO)
SES (TSCHUDI)

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Federal/American Creosote SSHP OU-1 Phase 1 v. 28-FEB-2002
Federal Creosote AMP OU-1; 2; and Phase 2 03 JUN 2003
SSHP Addendum 27 JAN 2003

Date: 20 AUG 2003

Safety and Health Issues Verified

Yes No NA Rank

- | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|---|
| <p>1. Current version of the SSHP present onsite and available to all site workers? [1926.65 (b)(4)] <input checked="" type="checkbox"/> Available in site trailers and work vehicles.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p>2. Do site personnel have current documented training in: <input checked="" type="checkbox"/> Reviewed documentation for the following personnel- Neal Esposito (Operator), Brian Shanahan (Superintendent-Phase 6), Russel Brown (Laborer), Phil Badey (Superintendent).</p> | | | | |
| <p> ◇ 40 Hour HAZWOPER? [1926.65 (e)(3)] Documented onsite? (SSHP7.0)</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ 8-Hour Annual HAZWOPER Refresher? <input checked="" type="checkbox"/> Brian's current training certificate not on file.</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4 |
| <p> ◇ 2-persons CPR/First Aid? (385 03.A.02) (SSHP7.0) <input checked="" type="checkbox"/> Recently completed training 9 individuals and included AED.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ 8-Hour Hazardous Waste Site Supervisor? [1926.65 (e)(4)] <input checked="" type="checkbox"/> Brian's Supervisory Training certification not on file.</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5 |
| <p> ◇ Medical Surveillance Certificates submitted to CO for all employees in EZ? (SSHP5.0) <input checked="" type="checkbox"/> Brian's file missing current medical surveillance and training certification. File was obtained from Jefferson Medical.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ Site-specific training documentation onsite and submitted to CO? (SSHP7.2) <input checked="" type="checkbox"/> All files contain required : Training Acknowledgment Form"</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ MSDSs available in Site trailer and submitted to CO? (SSHP7.2) <input checked="" type="checkbox"/> Current file is up-to-date with recent addition of Sikaflex 1-CSL. Noted: Utilize nitrile gloves and safety glasses. Recommendation: Add chemical to the restoration hazard analysis and include in future training..</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ Training on new MSDSs completed and documented? (SSHP7.2) <input checked="" type="checkbox"/> Initial site briefing includes general training. MSDS specific training is included in tailgate sessions.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ Tailgate safety meetings held daily and documented? (SSHP7.2) <input checked="" type="checkbox"/> Reviewed Health and Safety Daily Reports for 15 JUL 2003(Emergency Evacuation Drill); 15 APR 2003 (Heavy Equipment Safety); 15 OCT 2002 (Cellular Phone Use)</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ Visitor training completed and documented? (SSHP7.3) <input checked="" type="checkbox"/> Reviewed dates selected for item</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p> ◇ Subcontractor training on requirements of the SSHP? (SSHP8.0) <input checked="" type="checkbox"/> Preparatory work meeting with subcontractors prior to the start of work. Truckers are restricted to the cab and do not enter "EZ".</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p>3. Is an AED available onsite and readily available for use by trained site personnel? <input checked="" type="checkbox"/> Recommend: Address the use and policies related to the AED in the SSHP.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p>4. Contract mechanism requiring Subcontractors to follow the approved SSHP? (SSHP 8.0) <input checked="" type="checkbox"/> Addressed in preparatory-phase meeting.</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <p>5. Monitoring for cold stress at temperatures below 40 degrees? (SSHP10.0)</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| <p>6. Hearing protection used by equipment operators and helpers? (SSHP11.0)</p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
7. Full body wash if full-body protective clothing is used? (SSHP 12.1 c) <input checked="" type="checkbox"/> Recommend: <i>Evaluate down grading the level of protection where Level Mod-D is utilized to Level D for heat-related issues.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. SSHO informed of over-the-counter drug use? (SSHP12.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Hot Work Permit, signed by SSHO, obtained before initiating cutting or welding? (SSHP8.0 1) <input checked="" type="checkbox"/> <i>These are contained in the Daily Health and Safety Report. Reviewed 11 JUL 2003.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Fire Watch assigned for all Hot Work? (SSHP8.0 1. a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Fire extinguishers inspected and tagged monthly? (SSHP8.0 1. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Heavy equipment inspected by the operator prior to use? (SSHP8.0 d) <input checked="" type="checkbox"/> <i>Initial incoming inspection is performed by the operator and SES personnel and is documented. Daily inspections are not documented. Periodically the SSHO will review the inspection process with the operators.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Site inspected by the SSHO daily? (SSHP 8.0 g) (SSHP17.0 2 c) and submitted to CO? (SSHP23.0 3) <input checked="" type="checkbox"/> <i>SSHO completes a walk-through inspection of the site on a random basis. Recommend: Evaluate a variety processes that will increase worker involvement and provide additional documentation of findings and any resulting corrective action taken. Increasing involvement may provide additional insight into potential hazards that exist onsite. Demonstrate continual improvement is occurring.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
14. During excavation activities that utilize shoring, is the support system inspected daily for misalignment, cracking, or bulging? And documented? (Amend 23 JAN 03) <input checked="" type="checkbox"/> <i>This applies to tieback 15 only. This has since been backfilled and closed and no longer applies. Reviewed 15 APR 2003-- declination was measured and recorded on Daily Tieback Report covering 9 JAN through 15 APR.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15. Eating, drinking, smoking, chewing gum, and make-up prohibited in contaminated areas? (SSHP12.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Hands and face washed prior to leaving work area before eating, drinking, urinating, or other activities? (SSHP12. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Personnel wearing respiratory protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Fit Tested? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Individually assigned respirators? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Adequate storage provided? (CFR 1910.134 h 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Cartridges changed out daily? (SSHP13.0 4 d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
18. Confined space permit obtained as required? (SSHP14.0 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
19. Perimeter signage present? (SSHP15.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. Work Zones clearly delineated? (SSHP15.0 2.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. EZ Delineated with orange fencing and warning signs? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. CRZ delineated using flagging and stakes? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Emergency phone numbers posted at all site phones? Dashboards of field vehicles? (SSHP15.0 3) (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. Showers and lunch areas provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. Equipment decontaminated prior to any maintenance? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. Certificate of Decontamination completed? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. New Jersey One-Call System used for utility clearances? (SSHP17.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. All mobile equipment provided with working backup alarms? (SSHP17.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. Equipment attended during operation? (SSHP17.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. All electrical equipment grounded and GFCIs used? (SSHP17.0 2 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Safety and Health Issues Verified	Yes	No	NA	Rank
31. Adequate number of toilet facilities provided? (SSHP17.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. Source of potable water provided? (SSHP17.0 2 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. LOTO program implemented? (SSHP17.0 2 k)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34. First aid kits provided with burn kits? (SSHP18.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35. Following Fire extinguishers provided? (SSHP18.0 1 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36. Fire extinguishers located at the following:				
◇ USACE Trailer? (SSHP18.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ USEPA Trailer? (SSHP18.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Office trailer? (SSHP18.0 2 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Construction Equipment Trailer? (SSHP 18.0 2 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Health and Safety Trailer? (SSHP 18.0 2 e)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Flammable Storage Area? (SSHP 18.0 2 f) <i>ⓧ Note: Minor housekeeping issue was noted at the flammables storage area. Pooling of hydraulic fluid on the top of drums.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
◇ All site vehicles and heavy equipment? (SSHP18.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37. Medical Facility? (SSHP18.0 1 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38. Emergency Eyewash? (SSHP18.0 1 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39. Two SCBAs? (SSHP 18.0 1 e) <i>ⓧ These are available onsite currently. Recommend: Since there are significant liability issues related to the maintenance and use of this equipment. Remove SCBAs from the site. Required in specification—this will be modified if necessary.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
40. Spill Kits? (SSHP18.0 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41. PPE (Level C) for two visitors? (SSHP18.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42. Air horn available for use? (SSHP19.0 1 b.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43. Plastic sheeting available for medical emergencies? (SSHP19.0 3 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44. Capabilities of selected medical facility verified by SSO? (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45. Community Evacuation Planning Meeting completed? (SSHP19.0 7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46. Drills for Emergency Response and Contingency Planning completed? (SSHP19.0 7 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47. Medical Facility advised in writing of potential medical emergencies and notified of potential contaminants? (SSHP19.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48. Community Protection Officer identified? (SSHP20.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49. Personal Air Monitoring Sheets maintained? (SSHP20.0 3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50. Excavation activities curtailed when wind speeds exceed 15 mph for more than 15 minutes? (SSHP21 a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51. Any mud on the decontamination pad kept moist? (SSHP21.0 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52. All trucks carry contaminated debris and rubble covered? (SSHP21.0 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53. Personal monitoring in EZ performed every 2-Hours? (SSHP22.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Safety and Health Issues Verified

54. Integrated monitoring for BETX and PAHs completed once a month? (SSHP22.0 2)

Yes **No** **NA** **Rank**

☒ ☐ ☐

55. Do site records contain the following?

◇ Training Log (SSHP 23.0 1 a)

☒ ☐ ☐

◇ Daily Logs (SSHP23.0 1 b)

☒ ☐ ☐

◇ ~~Weekly Reports (SSHP23.0 1 c)~~

☐ ☐ ☐

◇ Real-time Air Monitoring (SSHP23.0 1 d)

☒ ☐ ☐

◇ Safety Meeting Record (SSHP23.0 1 e)

☒ ☐ ☐

◇ Decontamination Log (SSHP23.0 1 h)

☒ ☐ ☐

◇ Calibration Sheets (SSHP23.0 1 i)

☒ ☐ ☐

◇ Hot Work Permits (SSHP23.0 1 j)

☒ ☐ ☐

◇ Confined Space Permits (SSHP23.0 1 k)

☒ ☐ ☐

◇ Accident Reports (SSHP23.0 1 l)

☒ ☐ ☐

◇ Employee/Visitor Registration (SSHP23.0 1 m)

☒ ☐ ☐

◇ Medical Certifications (SSHP23.0 1 n)

☒ ☐ ☐

~~56. Do the Weekly Reports contain the following: (SSHP23.0 4) - ☒ This item has been revised. Daily reporting contains and meets all of these requirements. The item was deleted as per corrective action from previous audit.~~

◇ ~~Summary Sheet~~

☐ ☐ ☐

◇ ~~Any incidents of:~~

☐ ☐ ☐

~~1. Non-use of Protective Equipment~~

☐ ☐ ☐

~~2. Disregard of Buddy System~~

☐ ☐ ☐

~~3. Violation of Eating, drinking, chewing rule~~

☐ ☐ ☐

~~4. Job related injuries and illnesses~~

☐ ☐ ☐

◇ ~~SSHO Signature and date~~

☐ ☐ ☐

◇ ~~Date submitted to CO~~

☐ ☐ ☐

◇ ~~Copies of daily logs~~

☐ ☐ ☐

57. Employee and Visitor Log contain the following: (SSHP23.0 5)

☐ ☐ ☐

◇ Date and Time entering/exiting the site

☐ ☐ ☐

◇ Name and Address

☐ ☐ ☐

◇ Representing Agency/Company

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QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
58. Air Quality Reports approved and signed AQS prior to submittal? (AMP3.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. AM&ST correctly identified? (AMP3.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. Appropriate sampling approach utilized for the current site activities? (AMP4.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. TO-13, TO-14, and PM-10 performed monthly? (AMP4.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. Work zone perimeter real-time TVO with 15-minute averages being performed? (AMP5.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63. TVO and dust 15-min averages and graphs included in the Daily Air Monitoring Summary Report? (AMP9.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. Calibration and calibration checks on real time instruments performed correctly? (AMP10.2) <i>Reviewed calibration logs for PIDs (personal monitoring and area rae monitors).</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. Operating TVO operating manual available onsite? (AMP 5.1) <i>Copy is available.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66. Any TVO action level exceeded? Corrective action taken and documented? (AMP5.1.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
67. And dust action level exceeded? Corrective action taken and documented? (AMP5.2.1) (10.4) <i>Dust was exceeded once during backfill handling operations. Stopped work and implemented dust control with water misting and were able to bring levels to below ALs during the operation.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. TO-13 and PM-10 High volume samplers calibrated at least every 3-months or 360 hours? (AMP6.1) (6.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. Meteorological hourly summary data included on spreadsheet? (AMP7.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. Adjacent roadways swept prior to sampling? (AMP8.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71. Monthly air monitoring reports submitted within 14-days of receipt of sampling results? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. Results compared to action limits in tabular form? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. Calibration standards NIST traceable? (AMP10.2) <i>Reviewed corrective action item from last year's audit. The calibration logs currently contain the gas lot ID and certificates of analyses are on file.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74. Calibrations and post calibration check readings documented? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. Preventive maintenance schedule developed? (AMP10.3) <i>Schedule has been developed for each Area RAE and dust track. The monitors seem to go through quite a few moisture traps and they do require routine cleaning. This is completed onsite.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
76. Maintenance documented? (AMP10.3) <i>Factory maintenance is documented.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
77. Data evaluated by qualified and experienced personnel prior to use? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
78. Poor quality data not used in evaluation process? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

SUBJECT: Federal Creosote: 2004 Health and Safety Audit
Summary and Discussion

1. On December 8-9, 2004 Mr. Raymond Lo, US Army Corps of Engineers New York District (CENAN) completed a detailed health and safety field audit of construction operations at the Federal Creosote Superfund Site. The intent of the audit was to document the Contractor's, Severson Environmental Services' (SES), health and safety performance as specified in the contract; provide documentation to assist in assigning an appropriate contractor health and safety performance rating; and provide opportunity to exchange information and experiences on ways to improve quality and performance. The results of this audit are to be used in conjunction with additional information collected by CENAN site project managers and Safety Office personnel.
2. I would like to thank site personnel for their cooperation in completing the audit efficiently, specifically Mr. Eric Tschudi and Mr. Davis Raver, Jr. The significant efforts of all site personnel (USEPA, SES and USACE) were evident and directly contributed to the positive findings of the audit.
3. The audit utilized a prepared checklist that was provided to the Contractor prior to the site visit. The checklist focused on record keeping and action items stated in the Contractor's current versions of the Site Specific Safety and Health Plan (SSHP), SSHP Amendments, and the Ambient Air Monitoring Plan (AAMP). For each checklist item includes a reference to these site plans, the contact specification, or Federal regulation are included. Findings and recommendations have been subjectively ranked on the checklist (last column) to assist in prioritizing corrective action.
4. A summary of findings, observations, and recommendations is included on the attached checklist. For each item with a comment, the field observation is italicized and follows a "X" symbol.
5. Overall the excellent performance found during the previous audit of the site continues. The program was found to be in compliance with contract health and safety requirements. The teamwork between the contractor, USEPA, and USACE personnel continue to enhance the effectiveness of the site safety and health program.
6. To date, the contractor has achieved over 358,000 man-hours without a lost-time injury. This achievement could be attributed to the continued efforts by site personnel an effective participation and involvement of safety personnel into the day-to-day site operations and planning.
7. Along with maintaining last year's performance level, the program has also improved. There is an increased level of trust and

communication between the health and safety staff and the union work force, tailgate talks are currently conducted to facilitate two way communication, this enables the health and safety staff to address issues in an open forum in addition to sharing best management practices and lessons learned.

8. Please contact me at (212)264-9050 or via email at raymond.lo@usace.army.mil if you have any questions or concerns related to this audit.

SIGNED

Raymond Lo
Industrial Hygienist
CENAN - SA

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Federal/American Creosote SSHP OU-1 Phase 1 v. 28-FEB-2002
Federal Creosote AMP OU-1; 2; and Phase 2 03 JUN 2003
SSHP Addendum 27 JAN 2003

Date: December 8-9, 2004

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
1. Current version of the SSHP present onsite and available to all site workers? [1926.65 (b)(4)] <i>Available in site trailers and work vehicles.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Do site personnel have current documented training in:				
◇ 40 Hour HAZWOPER? [1926.65 (e)(3)] Documented onsite? (SSHP7.0) <i>Reviewed documentation for the following personnel – Frank Manarino (Laborer) and Richard Hamlette (Laborer)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ 8-Hour Annual HAZWOPER Refresher?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ 2-persons CPR/First Aid? (385 03.A.02) (SSHP7.0) <i>Reviewed Eric Tschundi's training certification, there are four other employees on location that are CPR/First Aid certified</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ 8-Hour Hazardous Waste Site Supervisor? [1926.65 (e)(4)] <i>Reviewed Brian Shanahan's certification</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Medical Surveillance Certificates submitted to CO for all employees in EZ? (SSHP5.0) <i>Reviewed documentation for the following personnel – Frank Manarino (Laborer) and Richard Hamlette (Laborer)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Site-specific training documentation onsite and submitted to CO? (SSHP7.2) <i>All files contain required : Training Acknowledgment Form"</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ MSDSs available in Site trailer and submitted to CO? (SSHP7.2) <i>Located in health and safety trailer</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Training on new MSDSs completed and documented? (SSHP7.2) <i>Initial site briefing includes general training. MSDS specific training is included in tailgate sessions.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Tailgate safety meetings held daily and documented? (SSHP7.2) <i>Reviewed Motor vehicle talk (10/11/04) and Safe winter walking (12/7/04)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Visitor training completed and documented? (SSHP7.3) <i>Reviewed Jennifer Gurdak training records (11/9/04)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Subcontractor training on requirements of the SSHP? (SSHP8.0) <i>Preparatory work meeting with subcontractors prior to the start of work</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is an AED available onsite and readily available for use by trained site personnel? <i>Recommend: Address the use and policies related to the AED in the SSHP.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Contract mechanism requiring Subcontractors to follow the approved SSHP? (SSHP 8.0) <i>Reviewed purchase order for Elite Landscaping and Bennett environmental, both have contract language stating compliance with SSHP</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Monitoring for cold stress at temperatures below 40 degrees? (SSHP10.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6. Hearing protection used by equipment operators and helpers? (SSHP11.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Full body wash if full-body protective clothing is used? (SSHP 12.1 c) <i>Full shower available if needed</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. SSHP informed of over-the-counter drug use? (SSHP12.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Hot Work Permit, signed by SSHP, obtained before initiating cutting or welding? (SSHP8.0 1. a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
10. Fire Watch assigned for all Hot Work? (SSHP8.0 1. a) <i>ⓧ There is a line item on the hot work permit for a fire watch to be assigned</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Fire extinguishers inspected and tagged monthly? (SSHP8.0 1. b) <i>ⓧ An excel list of all fire extinguishers is maintained with the SHO</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Heavy equipment inspected by the operator prior to use? (SSHP8.0 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Site inspected by the SSHO daily? (SSHP 8.0 g) (SSHP17.0 2 c) and submitted to CO? (SSHP23.0 3) <i>ⓧ Detailed on the daily report</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. During excavation activities that utilize shoring, is the support system inspected daily for misalignment, cracking, or bulging? And documented? (Amend 23 JAN 03)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15. Eating, drinking, smoking, chewing gum, and make-up prohibited in contaminated areas? (SSHP12.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Hands and face washed prior to leaving work area before eating, drinking, urinating, or other activities? (SSHP12. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Personnel wearing respiratory protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Fit Tested? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Individually assigned respirators? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Adequate storage provided? (CFR 1910.134 h 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Cartridges changed out daily? (SSHP13.0 4 d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
18. Confined space permit obtained as required? (SSHP14.0 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
19. Perimeter signage present? (SSHP15.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. Work Zones clearly delineated? (SSHP15.0 2.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. EZ Delineated with orange fencing and warning signs? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. CRZ delineated using flagging and stakes? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Emergency phone numbers posted at all site phones? Dashboards of field vehicles? (SSHP15.0 3) (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. Showers and lunch areas provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. Equipment decontaminated prior to any maintenance? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. Certificate of Decontamination completed? (SSHP16.0 2) <i>ⓧ Records of decontamination completed maintained with SHO</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. New Jersey One-Call System used for utility clearances? (SSHP17.0 a) <i>ⓧ History of one calls are maintained electronically</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. All mobile equipment provided with working backup alarms? (SSHP17.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. Equipment attended during operation? (SSHP17.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. All electrical equipment grounded and GFCIs used? (SSHP17.0 2 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31. Adequate number of toilet facilities provided? (SSHP17.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. Source of potable water provided? (SSHP17.0 2 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. LOTO program implemented? (SSHP17.0 2 k)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34. First aid kits provided with burn kits? (SSHP18.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
35. Following Fire extinguishers provided? (SSHP18.0 1 b)				
◇ 3A:40B:C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ 20A:120B:C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36. Fire extinguishers located at the following:				
◇ USACE Trailer? (SSHP18.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ USEPA Trailer? (SSHP18.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Office trailer? (SSHP18.0 2 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Construction Equipment Trailer? (SSHP 18.0 2 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Health and Safety Trailer? (SSHP 18.0 2 e)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Flammable Storage Area? (SSHP 18.0 2 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ All site vehicles and heavy equipment? (SSHP18.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37. Medical Facility? (SSHP18.0 1 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38. Emergency Eyewash? (SSHP18.0 1 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39. Two SCBAs? (SSHP 18.0 1 e) <i>⊗ Recommend: SCBAs are no longer on location, recommend amending health and safety plan to reflect this change</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
40. Spill Kits? (SSHP18.0 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41. PPE (Level C) for two visitors? (SSHP18.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42. Air horn available for use? (SSHP19.0 1 b.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43. Plastic sheeting available for medical emergencies? (SSHP19.0 3 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44. Capabilities of selected medical facility verified by SSHO? (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45. Community Evacuation Planning Meeting completed? (SSHP19.0 7) <i>⊗ Met with Carol Campbell (Somerset Medical Center)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46. Drills for Emergency Response and Contingency Planning completed? (SSHP19.0 7 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47. Medical Facility advised in writing of potential medical emergencies and notified of potential contaminants? (SSHP19.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48. Community Protection Officer identified? (SSHP20.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49. Personal Air Monitoring Sheets maintained? (SSHP20.0 3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50. Excavation activities curtailed when wind speeds exceed 15 mph for more than 15 minutes? (SSHP21 a)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
51. Any mud on the decontamination pad kept moist? (SSHP21.0 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52. All trucks carry contaminated debris and rubble covered? (SSHP21.0 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53. Personal monitoring in EZ performed every 2-Hours? (SSHP22.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
54. Integrated monitoring for BETX and PAHs completed once a month? (SSHP22.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55. Do site records contain the following?				
◇ Training Log (SSHP 23.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Daily Logs (SSHP23.0 1 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Weekly Reports (SSHP23.0 1 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Real-time Air Monitoring (SSHP23.0 1 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Safety Meeting Record (SSHP23.0 1 e)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Decontamination Log (SSHP23.0 1 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Calibration Sheets (SSHP23.0 1 i)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Hot Work Permits (SSHP23.0 1 j)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Confined Space Permits (SSHP23.0 1 k)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Accident Reports (SSHP23.0 1 l)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
◇ Employee/Visitor Registration (SSHP23.0 1 m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Medical Certifications (SSHP23.0 1 n)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56. Employee and Visitor Log contain the following: (SSHP23.0 5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Date and Time entering/exiting the site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Name and Address <i>⊗ No line item for address on visitor log, Recommend deleting address requirement</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Representing Agency/Company	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57. Air Quality Reports approved and signed AQS prior to submittal? (AMP3.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58. AM&ST correctly identified? (AMP3.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. Appropriate sampling approach utilized for the current site activities? (AMP4.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. TO-13, TO-14, and PM-10 performed monthly? (AMP4.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. Work zone perimeter real-time TVO with 15-minute averages being performed? (AMP5.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. TVO and dust 15-min averages and graphs included in the Daily Air Monitoring Summary Report? (AMP9.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63. Calibration and calibration checks on real time instruments performed correctly? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. Operating TVO operating manual available onsite? (AMP 5.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. Any TVO action level exceeded? Corrective action taken and documented?(AMP5.1.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
66. And dust action level exceeded? Corrective action taken and documented? (AMP5.2.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
67. TO-13 and PM-10 High volume samplers calibrated at least every 3-months or 360 hours? (AMP6.1) (6.3) <i>⊗ Reviewed calibration records</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. Meteorological hourly summary data included on spreadsheet? (AMP7.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. Adjacent roadways swept prior to sampling? (AMP8.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. Monthly air monitoring reports submitted within 14-days of receipt of sampling results? (AMP9.2) <i>⊗ Receive monthly reports</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71. Results compared to action limits in tabular form? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. Calibration standards NIST traceable? (AMP10.2) <i>⊗ Reviewed NIST documents</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. Calibrations and post calibration check readings documented? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74. Preventive maintenance schedule developed? (AMP10.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. Maintenance documented? (AMP10.3) <i>⊗ Dust Trac sent in for annual maintenance</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
76. Data evaluated by qualified and experienced personnel prior to use? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
77. Poor quality data not used in evaluation process? (AMP10.4) <i>⊗ There was an incident that generated skewed data from a train being parked in the vicinity of an PM10 air monitor, in another incident, there was a laborer using a sealer too close to a Area-Rae VOC monitor, both of these events were reviewed by the SHO and determined to be poor quality data</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

MEMORANDUM FOR EC-EB (DANIELS)

SUBJECT: Federal Creosote: 2003 Health and Safety Audit
Summary and Discussion

1. On August 20, 2003 Mr. Raymond Lo, US Army Corps of Engineers New York District (CENAN), and Mr. Daniel Mitchell, Kansas City District (CENWK), completed a detailed health and safety field audit of construction operations at the Federal Creosote Superfund Site. The intent of the audit was to document the Contractor's, Severson Environmental Services' (SES), health and safety performance as specified in the contract; provide documentation to assist in assigning an appropriate contractor health and safety performance rating; and provide opportunity to exchange information and experiences on ways to improve quality and performance. The results of this audit are to be used in conjunction with additional information collected by CENAN site project managers and Safety Office personnel.
2. The auditor's would like to thank site personnel for their cooperation in completing the audit efficiently, specifically Mr. Eric Tschudi and Mr. Davis Raver, Jr. The significant efforts of all site personnel (USEPA, SES and USACE) were evident and directly contributed to the positive findings of the audit.
3. The audit utilized a prepared checklist that was provided to the Contractor prior to the site visit. The checklist focused on record keeping and action items stated in the Contractor's current versions of the Site Specific Safety and Health Plan (SSHP), SSHP Amendments, and the Ambient Air Monitoring Plan (AAMP). For each checklist item includes a reference to these site plans, the contact specification, or Federal regulation are included. Findings and recommendations have been subjectively ranked on the checklist (last column) to assist in prioritizing corrective action.
4. A summary of findings, observations, and recommendations is included on the attached checklist. For each item with a comment, the field observation is italicized and follows a "X" symbol.
5. Overall the excellent performance found during the previous audit of the site continues. The program was found to be in compliance with contract health and safety requirements. The teamwork between the contractor, USEPA, and USACE personnel continue to enhance the effectiveness of the site safety and health program.

6. To date, the contractor has achieved over 218,000 man-hours without a lost-time injury. This achievement could be attributed to the continued efforts by site personnel an effective participation and involvement of safety personnel into the day-to-day site operations and planning.
7. Along with maintaining last year's performance level, the program has also improved. Improvements observed during the audit included: providing an onsite AED; improving the mobile SZ supply/worker rest areas (portable misting cooling fans) to further reduce and manage risk related to heat injuries; improved distribution of water and "thirst quencher"; and implementation of a "medical data sheet" to increase the effectiveness of emergency medical response.
8. Although improvements have been made, the program has not fully capitalized on the opportunity, stemming from the positive relationship of management and workers, to implement processes that will increase worker involvement in the safety program.
9. In addition, it is recommended that the Contractor evaluate more structured systems that to integrate "continual improvement" processes to increase program effectiveness and documentation. These systems are detailed in guidance from the International Standards Organization, National Safety Council, and OSHA. Processes may include more structured, thorough, and documented inspection, hazard identification, accident investigation, and corrective action procedures.
10. However, many of these requirements go beyond current contract requirements. Therefore, in relation to contract requirements, the performance of the Contractor meets or exceeds requirements. Site personnel have demonstrated initiative to improve, as demonstrated by the changes implemented from the last audit, and therefore, the auditors recommend an excellent performance rating.
11. Please contact me at (816) 983-3911 or via email at daniel.d.Mitchell@usace.army.mil if you have any questions or concerns related to this audit.

SIGNED

Daniel D. Mitchell, CIH
Industrial Hygienist
CENWK EC-EF

CC: CENAN CO-NN (URBANIK)
CENAN CO-NE (KOLB)
CENAN CO-NE (TALWAR) electronic
CENAN SO (LO) electronic
CENWK EC-EF (POULIOT)
SES (HITCHO)
SES (TSCHUDI)

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Federal/American Creosote SSHP OU-1 Phase 1 v. 28-FEB-2002
Federal Creosote AMP OU-1; 2; and Phase 2 03 JUN 2003
SSHP Addendum 27 JAN 2003

Date: 20 AUG 2003

Safety and Health Issues Verified

Yes No NA Rank

1. Current version of the SSHP present onsite and available to all site workers? [1926.65 (b)(4)] ☒ ☐ ☐ Available in site trailers and work vehicles.
2. Do site personnel have current documented training in: ☒ Reviewed documentation for the following personnel- Neal Esposito (Operator), Brian Shanahan (Superintendent-Phase 6), Russel Brown (Laborer), Phil Badey (Superintendent).
 - ◇ 40 Hour HAZWOPER? [1926.65 (e)(3)] Documented onsite? (SSHP7.0) ☒ ☐ ☐
 - ◇ 8-Hour Annual HAZWOPER Refresher? ☒ Brian's current training certificate not on file. ☐ ☒ ☐ 4
 - ◇ 2-persons CPR/First Aid? (385 03.A.02) (SSHP7.0) ☒ Recently completed training 9 individuals and included AED. ☒ ☐ ☐
 - ◇ 8-Hour Hazardous Waste Site Supervisor? [1926.65 (e)(4)] ☒ Brian's Supervisory Training certification not on file. ☐ ☒ ☐ 5
 - ◇ Medical Surveillance Certificates submitted to CO for all employees in EZ? (SSHP5.0) ☒ Brian's file missing current medical surveillance and training certification. File was obtained from Jefferson Medical. ☒ ☐ ☐
 - ◇ Site-specific training documentation onsite and submitted to CO? (SSHP7.2) ☒ All files contain required : Training Acknowledgment Form" ☒ ☐ ☐
 - ◇ MSDSs available in Site trailer and submitted to CO? (SSHP7.2) ☒ Current file is up-to-date with recent addition of Sikaflex 1-CSL. Noted: Utilize nitrile gloves and safety glasses. Recommendation: Add chemical to the restoration hazard analysis and include in future training.. ☒ ☐ ☐
 - ◇ Training on new MSDSs completed and documented? (SSHP7.2) ☒ Initial site briefing includes general training. MSDS specific training is included in tailgate sessions. ☒ ☐ ☐
 - ◇ Tailgate safety meetings held daily and documented? (SSHP7.2) ☒ Reviewed Health and Safety Daily Reports for 15 JUL 2003(Emergency Evacuation Drill); 15 APR 2003 (Heavy Equipment Safety); 15 OCT 2002 (Cellular Phone Use) ☒ ☐ ☐
 - ◇ Visitor training completed and documented? (SSHP7.3) ☒ Reviewed dates selected for item ☒ ☐ ☐
 - ◇ Subcontractor training on requirements of the SSHP? (SSHP8.0) ☒ Preparatory work meeting with subcontractors prior to the start of work. Truckers are restricted to the cab and do not enter "EZ". ☒ ☐ ☐
3. Is an AED available onsite and readily available for use by trained site personnel? ☒ ☐ ☐ Recommend: Address the use and policies related to the AED in the SSHP.
4. Contract mechanism requiring Subcontractors to follow the approved SSHP? (SSHP 8.0) ☒ ☐ ☐ Addressed in preparatory-phase meeting.
5. Monitoring for cold stress at temperatures below 40 degrees? (SSHP10.0) ☐ ☐ ☒
6. Hearing protection used by equipment operators and helpers? (SSHP11.0) ☒ ☐ ☐

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
7. Full body wash if full-body protective clothing is used? (SSHP 12.1 c) ⓧ Recommend: <i>Evaluate down grading the level of protection where Level Mod-D is utilized to Level D for heat-related issues.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. SSHO informed of over-the-counter drug use? (SSHP12.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Hot Work Permit, signed by SSHO, obtained before initiating cutting or welding? (SSHP8.0 1) ⓧ <i>These are contained in the Daily Health and Safety Report. Reviewed 11 JUL 2003.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Fire Watch assigned for all Hot Work? (SSHP8.0 1. a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Fire extinguishers inspected and tagged monthly? (SSHP8.0 1. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Heavy equipment inspected by the operator prior to use? (SSHP8.0 d) ⓧ Initial incoming inspection is performed by the operator and SES personnel and is documented. Daily inspections are not documented. Periodically the SSHO will review the inspection process with the operators.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Site inspected by the SSHO daily? (SSHP 8.0 g) (SSHP17.0 2 c) and submitted to CO? (SSHP23.0 3) ⓧ SSHO completes a walk-through inspection of the site on a random basis. Recommend: Evaluate a variety processes that will increase worker involvement and provide additional documentation of findings and any resulting corrective action taken. Increasing involvement may provide additional insight into potential hazards that exist onsite. Demonstrate continual improvement is occurring.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
14. During excavation activities that utilize shoring, is the support system inspected daily for misalignment, cracking, or bulging? And documented? (Amend 23 JAN 03) ⓧ This applies to tieback 15 only. This has since been backfilled and closed and no longer applies. Reviewed 15 APR 2003— declination was measured and recorded on Daily Tieback Report covering 9 JAN through 15 APR.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15. Eating, drinking, smoking, chewing gum, and make-up prohibited in contaminated areas? (SSHP12.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Hands and face washed prior to leaving work area before eating, drinking, urinating, or other activities? (SSHP12. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Personnel wearing respiratory protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Fit Tested? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Individually assigned respirators? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Adequate storage provided? (CFR 1910.134 h 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
◇ Cartridges changed out daily? (SSHP13.0 4 d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
18. Confined space permit obtained as required? (SSHP14.0 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
19. Perimeter signage present? (SSHP15.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. Work Zones clearly delineated? (SSHP15.0 2.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. EZ Delineated with orange fencing and warning signs? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. CRZ delineated using flagging and stakes? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Emergency phone numbers posted at all site phones? Dashboards of field vehicles? (SSHP15.0 3) (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. Showers and lunch areas provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. Equipment decontaminated prior to any maintenance? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. Certificate of Decontamination completed? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. New Jersey One-Call System used for utility clearances? (SSHP17.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. All mobile equipment provided with working backup alarms? (SSHP17.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. Equipment attended during operation? (SSHP17.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. All electrical equipment grounded and GFCIs used? (SSHP17.0 2 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
31. Adequate number of toilet facilities provided? (SSHP17.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. Source of potable water provided? (SSHP17.0 2 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. LOTO program implemented? (SSHP17.0 2 k)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34. First aid kits provided with burn kits? (SSHP18.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35. Following Fire extinguishers provided? (SSHP18.0 1 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36. Fire extinguishers located at the following:				
◇ USACE Trailer? (SSHP18.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ USEPA Trailer? (SSHP18.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Office trailer? (SSHP18.0 2 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Construction Equipment Trailer? (SSHP 18.0 2 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Health and Safety Trailer? (SSHP 18.0 2 e)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Flammable Storage Area? (SSHP 18.0 2 f) ⊗ Note: Minor housekeeping issue was noted at the flammables storage area. Pooling of hydraulic fluid on the top of drums.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
◇ All site vehicles and heavy equipment? (SSHP18.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37. Medical Facility? (SSHP18.0 1 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38. Emergency Eyewash? (SSHP18.0 1 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39. Two SCBAs? (SSHP 18.0 1 e) ⊗ These are available onsite currently. Recommend: Since there are significant liability issues related to the maintenance and use of this equipment. Remove SCBAs from the site. Required in specification—this will be modified if necessary.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
40. Spill Kits? (SSHP18.0 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41. PPE (Level C) for two visitors? (SSHP18.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42. Air horn available for use? (SSHP19.0 1 b.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43. Plastic sheeting available for medical emergencies? (SSHP19.0 3 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44. Capabilities of selected medical facility verified by SSHO? (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45. Community Evacuation Planning Meeting completed? (SSHP19.0 7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46. Drills for Emergency Response and Contingency Planning completed? (SSHP19.0 7 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47. Medical Facility advised in writing of potential medical emergencies and notified of potential contaminants? (SSHP19.0 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48. Community Protection Officer identified? (SSHP20.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49. Personal Air Monitoring Sheets maintained? (SSHP20.0 3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50. Excavation activities curtailed when wind speeds exceed 15 mph for more than 15 minutes? (SSHP21 a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51. Any mud on the decontamination pad kept moist? (SSHP21.0 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52. All trucks carry contaminated debris and rubble covered? (SSHP21.0 c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53. Personal monitoring in EZ performed every 2-Hours? (SSHP22.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
54. Integrated monitoring for BETX and PAHs completed once a month? (SSHP22.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55. Do site records contain the following?				
◇ Training Log (SSHP 23.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Daily Logs (SSHP23.0 1 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Weekly Reports (SSHP23.0 1 c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Real-time Air Monitoring (SSHP23.0 1 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Safety Meeting Record (SSHP23.0 1 e)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Decontamination Log (SSHP23.0 1 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Calibration Sheets (SSHP23.0 1 i)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Hot Work Permits (SSHP23.0 1 j)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Confined Space Permits (SSHP23.0 1 k)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Accident Reports (SSHP23.0 1 l)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Employee/Visitor Registration (SSHP23.0 1 m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Medical Certifications (SSHP23.0 1 n)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56. Do the Weekly Reports contain the following: (SSHP23.0 4) - <i>This item has been revised. Daily reporting contains and meets all of these requirements. The item was deleted as per corrective action from previous audit.</i>				
◇ Summary Sheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Any incidents of:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1. Non-use of Protective Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Disregard of Buddy System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Violation of Eating, drinking, chewing rule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Job related injuries and illnesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ SSHO Signature and date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Date submitted to CO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Copies of daily logs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57. Employee and Visitor Log contain the following: (SSHP23.0 5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Date and Time entering/exiting the site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Name and Address	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Representing Agency/Company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
58. Air Quality Reports approved and signed AQS prior to submittal? (AMP3.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. AM&ST correctly identified? (AMP3.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. Appropriate sampling approach utilized for the current site activities? (AMP4.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. TO-13, TO-14, and PM-10 performed monthly? (AMP4.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. Work zone perimeter real-time TVO with 15-minute averages being performed? (AMP5.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63. TVO and dust 15-min averages and graphs included in the Daily Air Monitoring Summary Report? (AMP9.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. Calibration and calibration checks on real time instruments performed correctly? (AMP10.2) <i>Reviewed calibration logs for PIDs (personal monitoring and area rae monitors).</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. Operating TVO operating manual available onsite? (AMP 5.1) <i>Copy is available.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66. Any TVO action level exceeded? Corrective action taken and documented?(AMP5.1.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
67. And dust action level exceeded? Corrective action taken and documented? (AMP5.2.1) (10.4) <i>Dust was exceeded once during backfill handling operations. Stopped work and implemented dust control with water misting and were able to bring levels to below ALs during the operation.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. TO-13 and PM-10 High volume samplers calibrated at least every 3-months or 360 hours? (AMP6.1) (6.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. Meteorological hourly summary data included on spreadsheet? (AMP7.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. Adjacent roadways swept prior to sampling? (AMP8.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71. Monthly air monitoring reports submitted within 14-days of receipt of sampling results? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. Results compared to action limits in tabular form? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. Calibration standards NIST traceable? (AMP10.2) <i>Reviewed corrective action item from last year's audit. The calibration logs currently contain the gas lot ID and certificates of analyses are on file.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74. Calibrations and post calibration check readings documented? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. Preventive maintenance schedule developed? (AMP10.3) <i>Schedule has been developed for each Area RAE and dust track. The monitors seem to go through quite a few moisture traps and they do require routine cleaning. This is completed onsite.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
76. Maintenance documented? (AMP10.3) <i>Factory maintenance is documented.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
77. Data evaluated by qualified and experienced personnel prior to use? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
78. Poor quality data not used in evaluation process? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

[illegible]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: March 19, 2008

SUBJECT: Federal Creosote Operable Unit 2 Phase 1 Final Inspection

FROM: Rich Puvogel
Central New Jersey Remediation Section

TO: Site File

This memo documents the final inspection of Operable Unit 1 Phase 2 at the Federal Creosote Superfund Site. The inspection was conducted by EPA and the New Jersey Department of Environmental Protection. In attendance at the inspection were Rich Puvogel, the United States Environmental Protection Agency's remedial project manager, Mandeep Talwar, of the United States Army Corps of Engineers, Joel Czachorowski, of Severson Environmental Services, Inc., and Drew Sites of the New Jersey Department of Environmental Protection.

The inspection of OU1 Phase 2 was conducted on the morning of March 19, 2008. During the final inspection Mr. Sites, Mr. Talwar, Mr. Puvogel, and Mr. Czachorowski walked through/around the remediated OU1 Phase 2 (Lagoon A) properties.

No outstanding issues concerning the remediation were raised during the inspection and the remediation of OU1 Phase 2 was considered complete.